

KIC 006289257

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006289257-01	OBS	0307.01	19.674132	136.922060	205.8	3.728	32.9	34.1	1.03	6023	1.75	60.51
006289257-02	OBS	0307.02	5.211049	131.538012	102.9	3.398	30.2	33.0	1.03	6023	1.23	355.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006289257-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006289257-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006289257-01

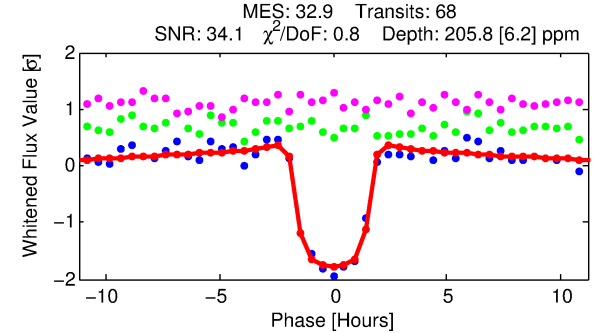
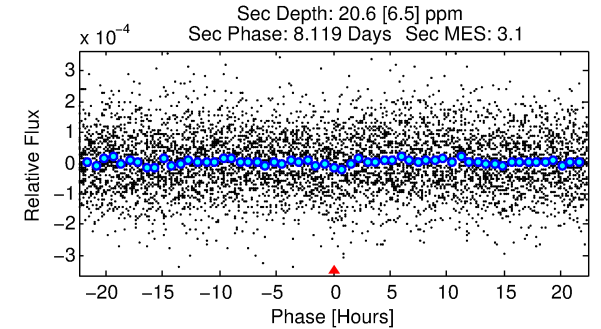
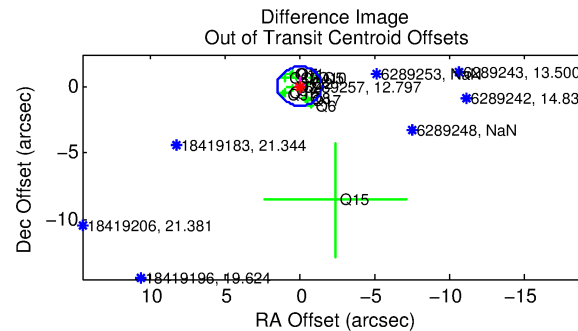
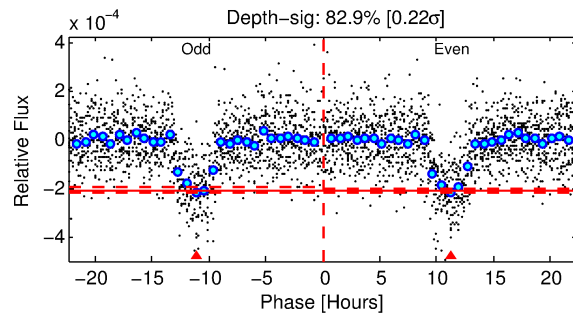
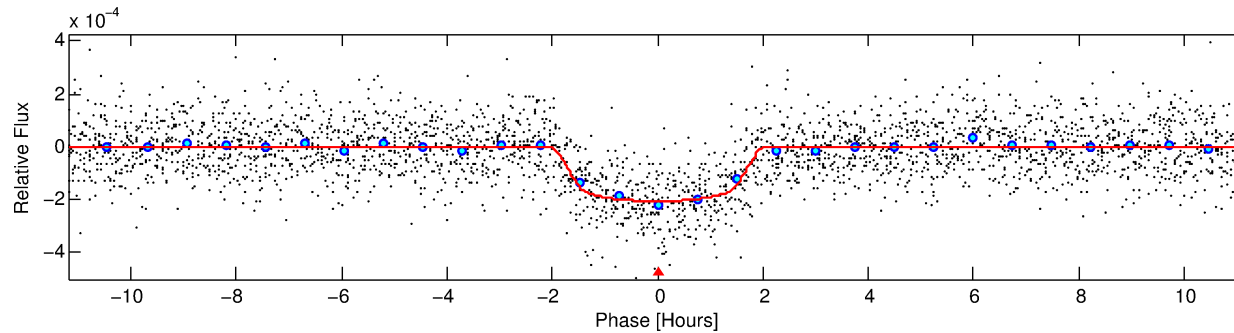
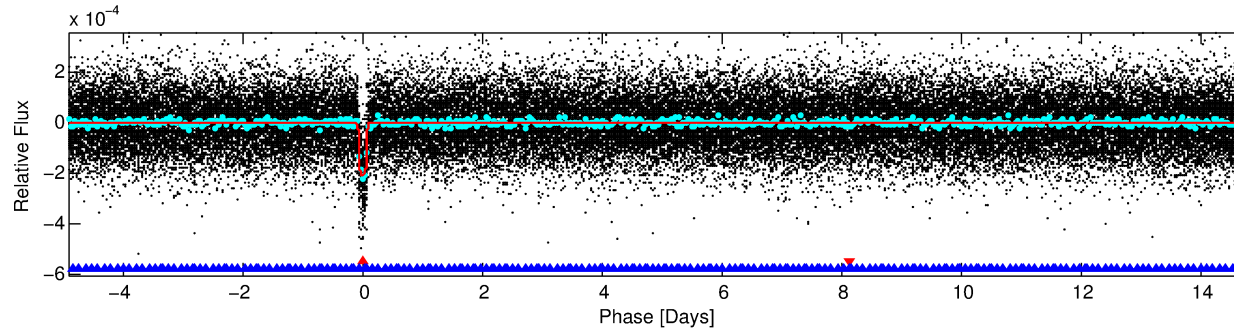
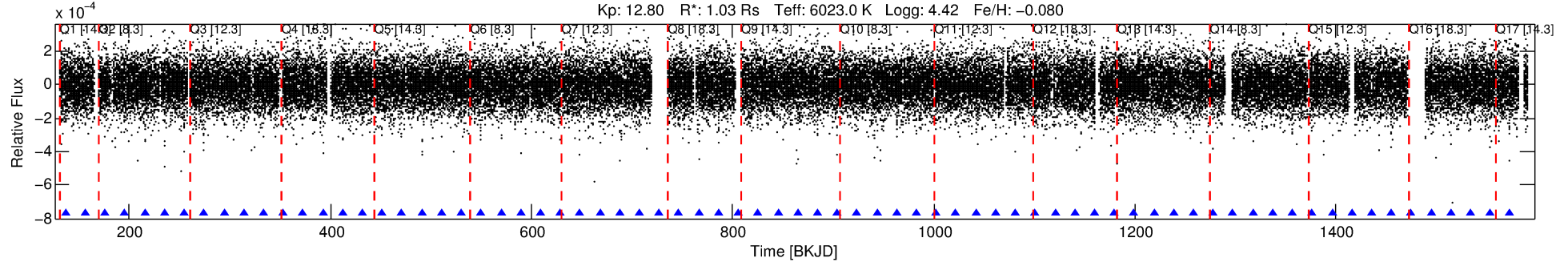
No Significant Match Found

DV One-Page Summary

KIC: 6289257 Candidate: 1 of 2 Period: 19.674 d

KOI: K00307.01 Corr: 0.982

Kp: 12.80 R*: 1.03 Rs Teff: 6023.0 K Logg: 4.42 Fe/H: -0.080



DV Fit Results:

Period = 19.67413 [0.00005] d
Epoch = 136.9221 [0.0020] BKJD
Rp/R* = 0.0155 [0.0016]
a/R* = 18.99 [10.05]
b = 0.90 [0.11]
Seff = 60.50 [14.43]
Teq = 711 [42] K
Rp = 1.75 [0.34] Re
a = 0.1439 [0.0209] AU
Ag = 77.19 [33.93] [2.25σ]
Teffp = 3259 [317] K [7.96σ]

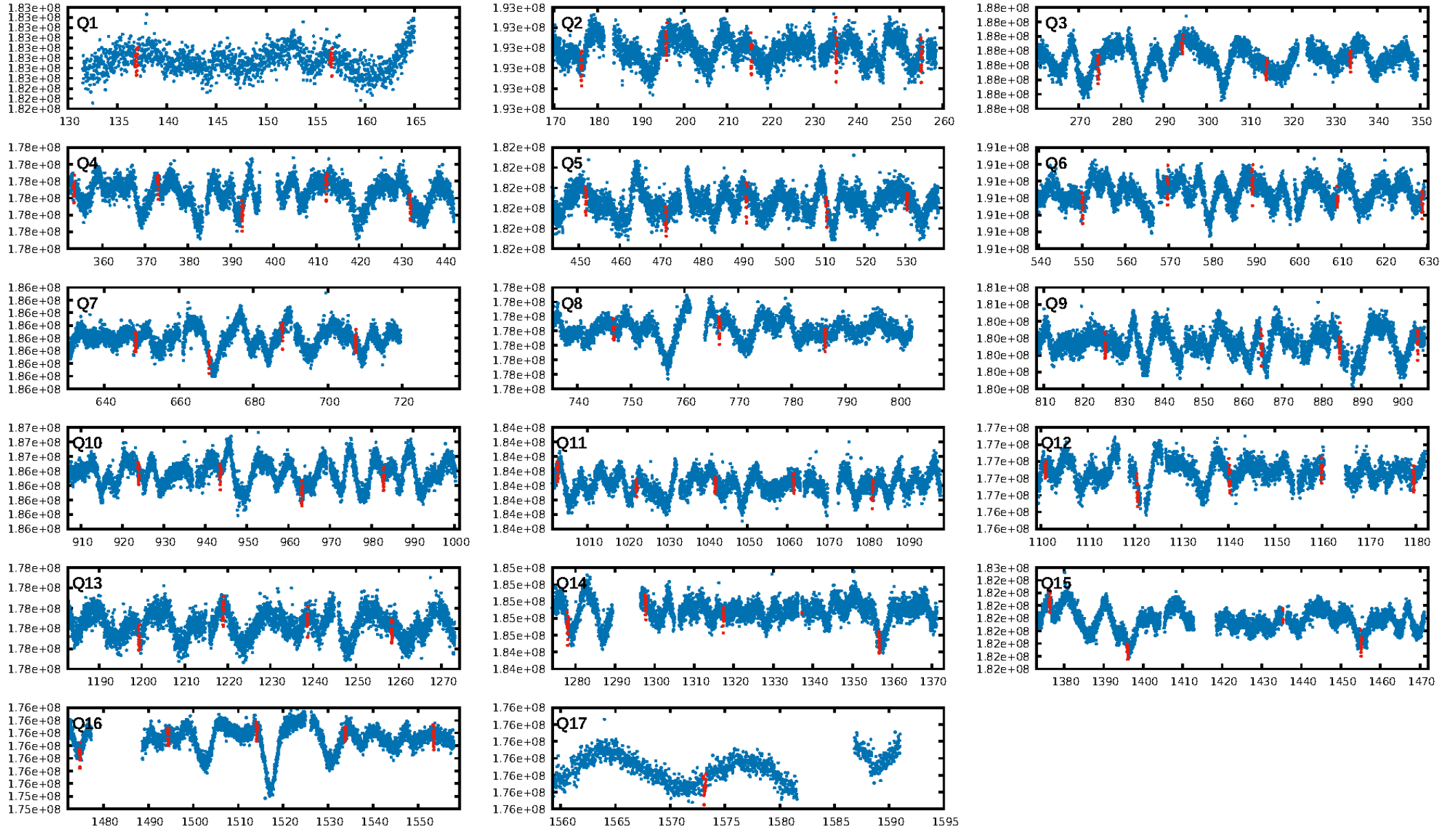
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.81σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.20e-217
RollingBand-fgt: 1.00 [65/65]
GhostDiagnostic-chr: 5.339
Centroid-sig: 4.6%
Centroid-so: 0.740 arcsec [2.39σ]
OotOffset-rm: 0.099 arcsec [0.20σ]
KicOffset-rm: 0.201 arcsec [0.66σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 1.00 [17/17]

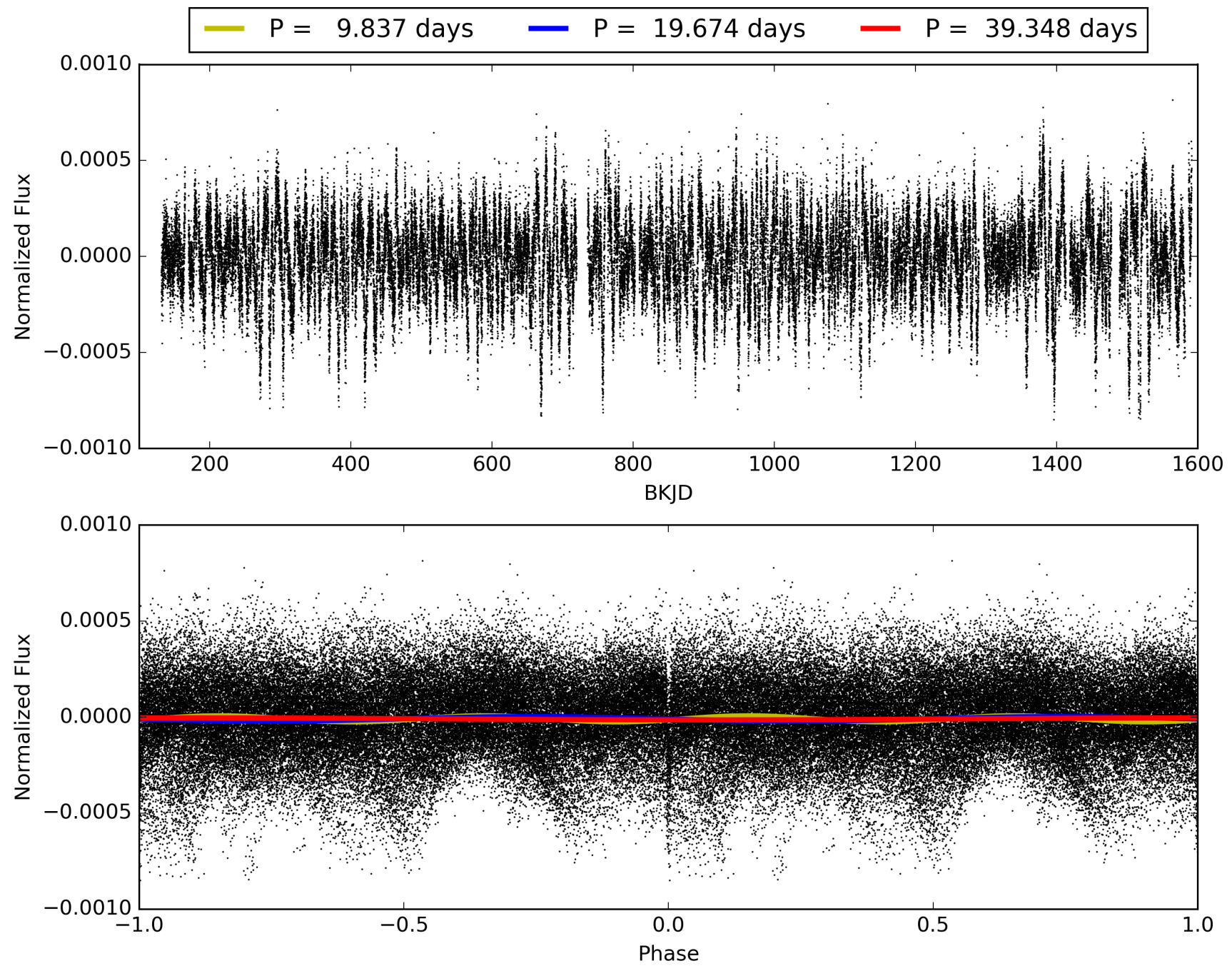
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:19:51 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006289257-01, PDC Light Curves

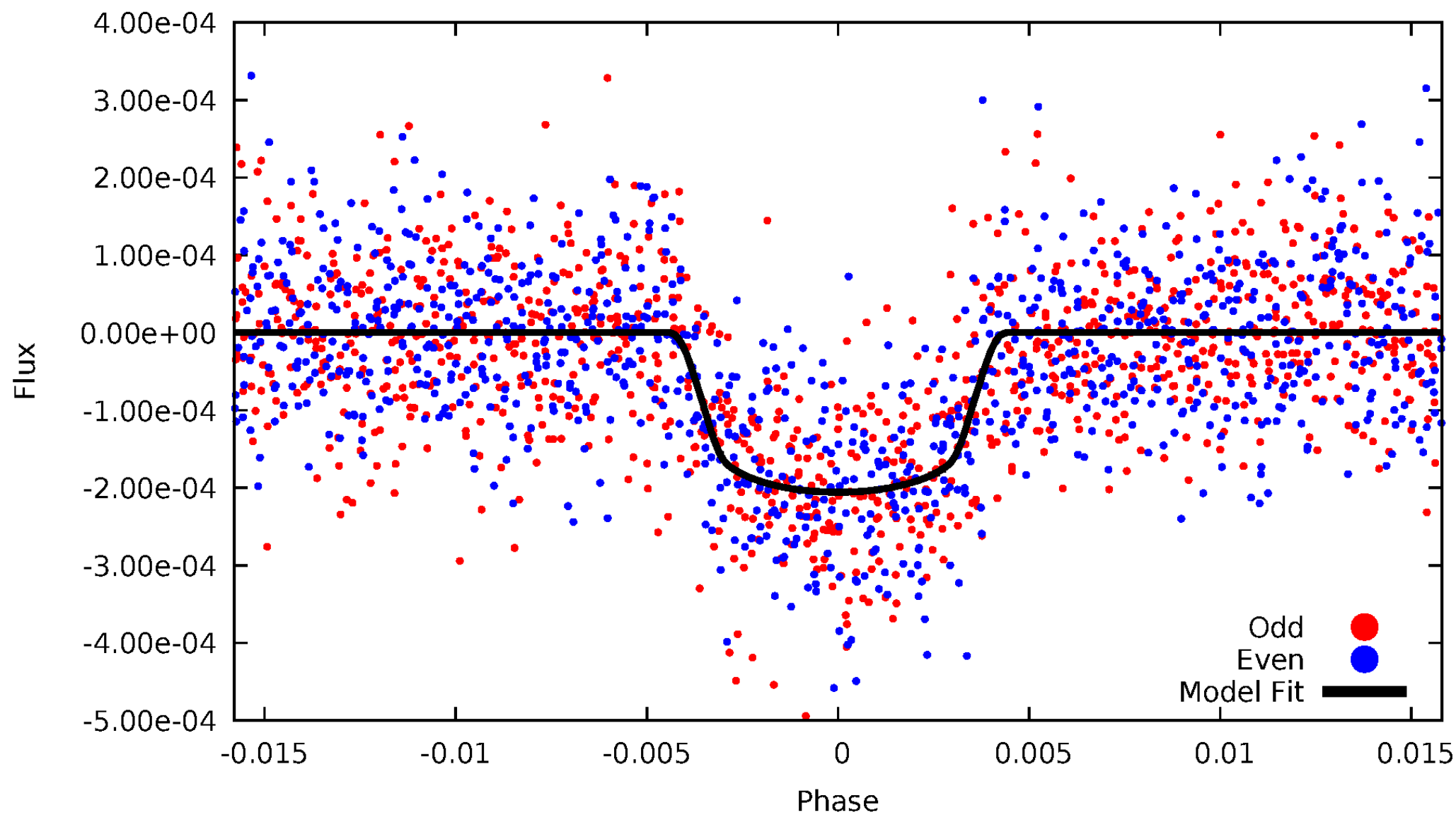


TCE 006289257-01



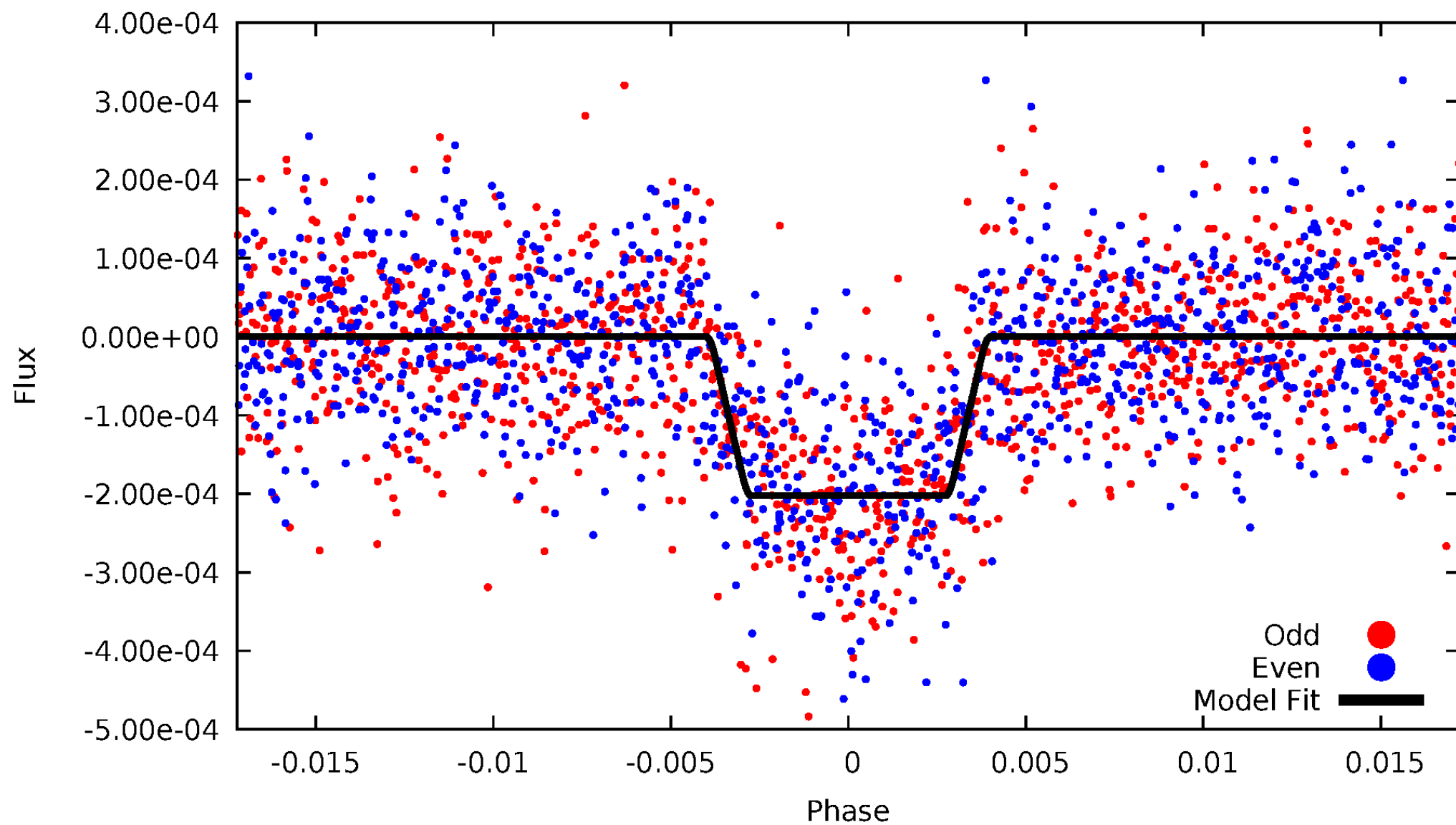
DV Odd/Even

TCE 006289257-01



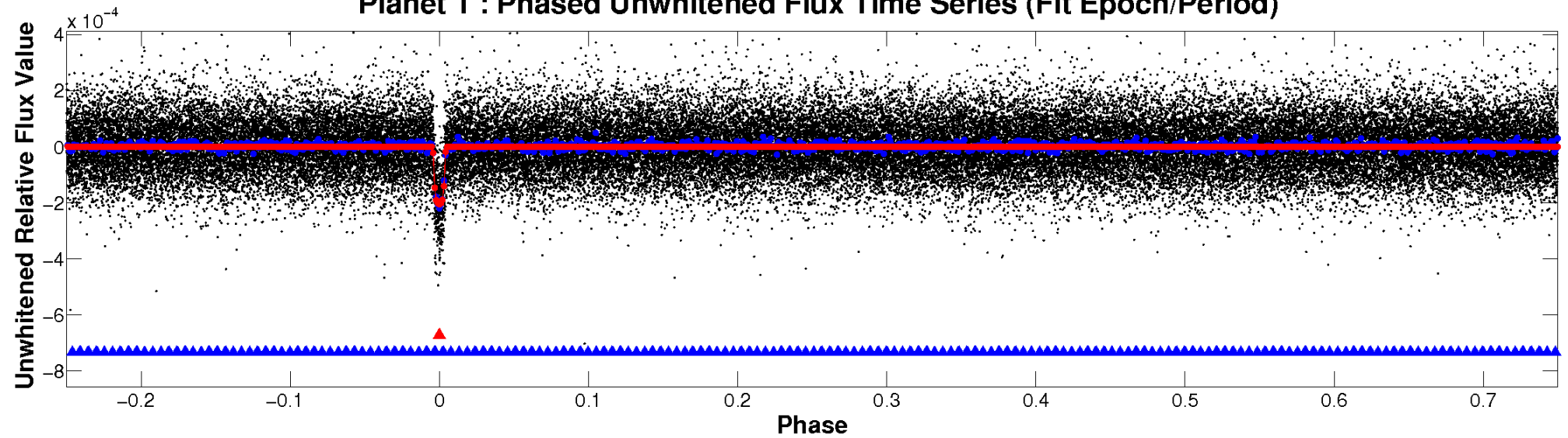
ALT Odd/Even

TCE 006289257-01

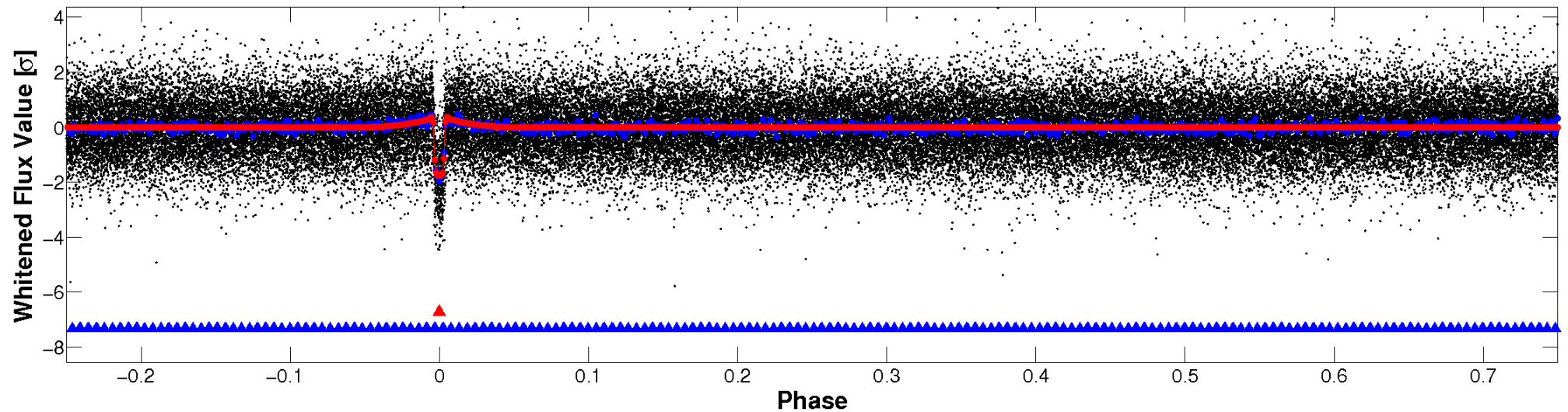


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

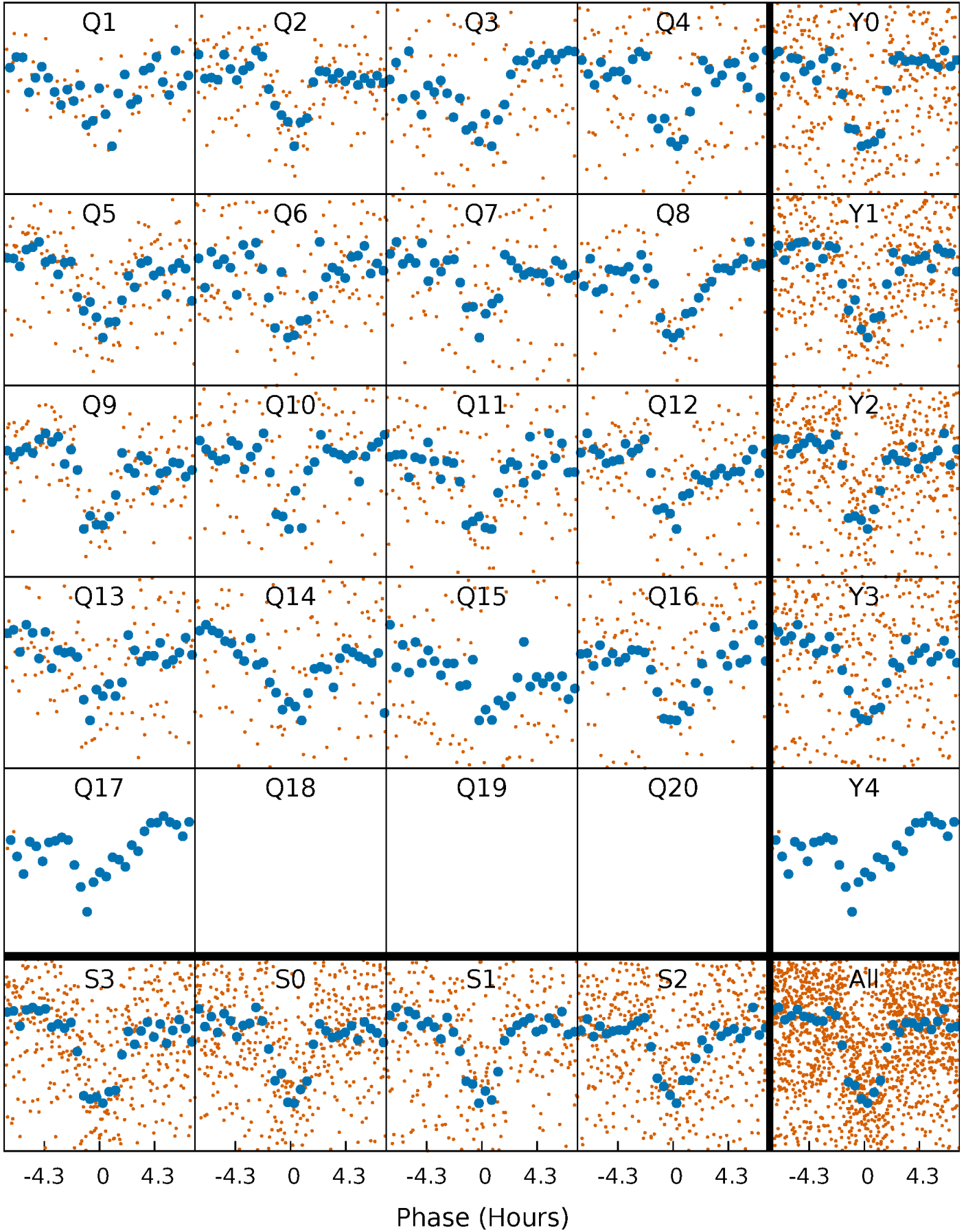


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



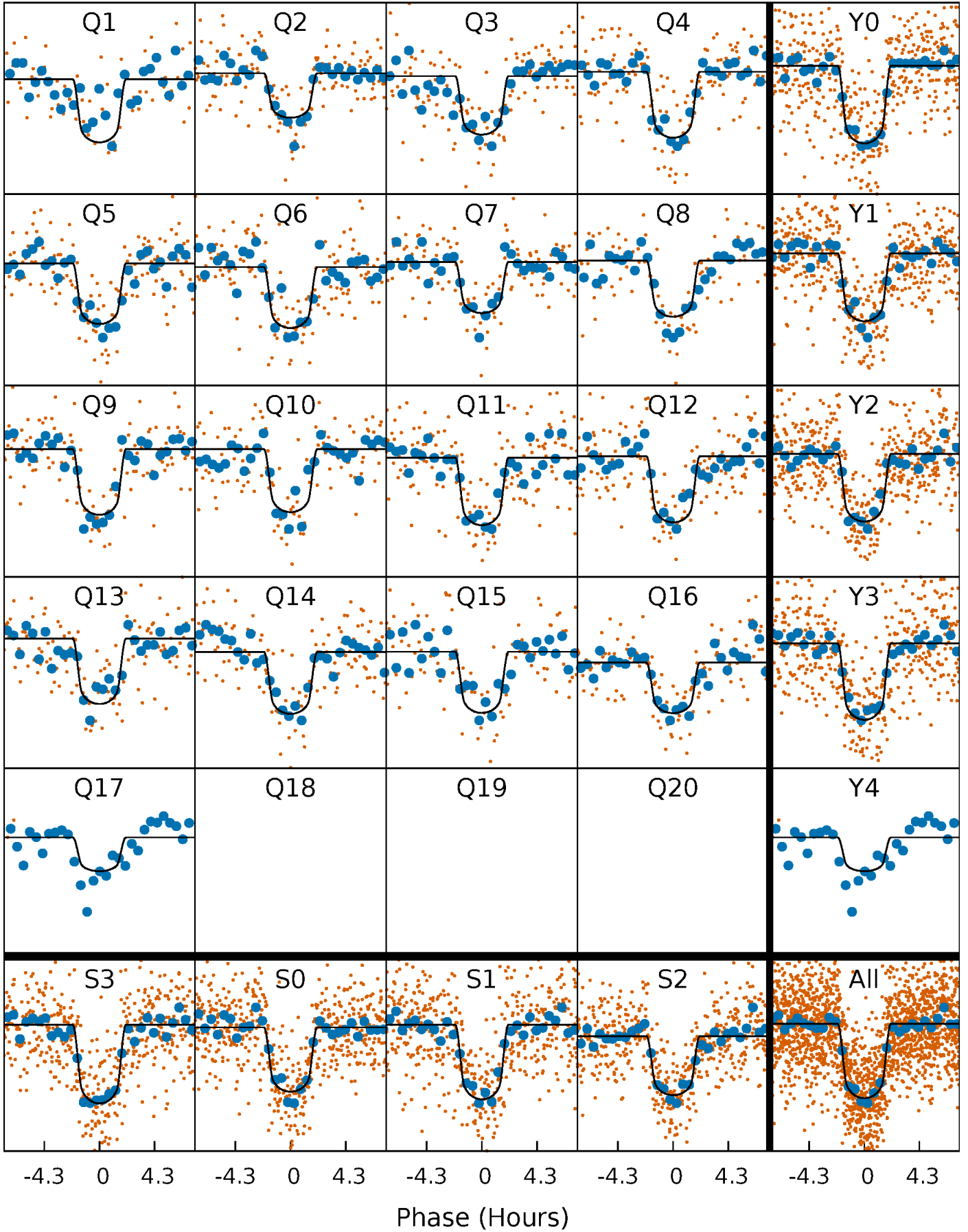
PDC Quarter-Phased Transit Curves

TCE 006289257-01 P= 19.674132 Days $T_0=136.922060$ (BKJD)



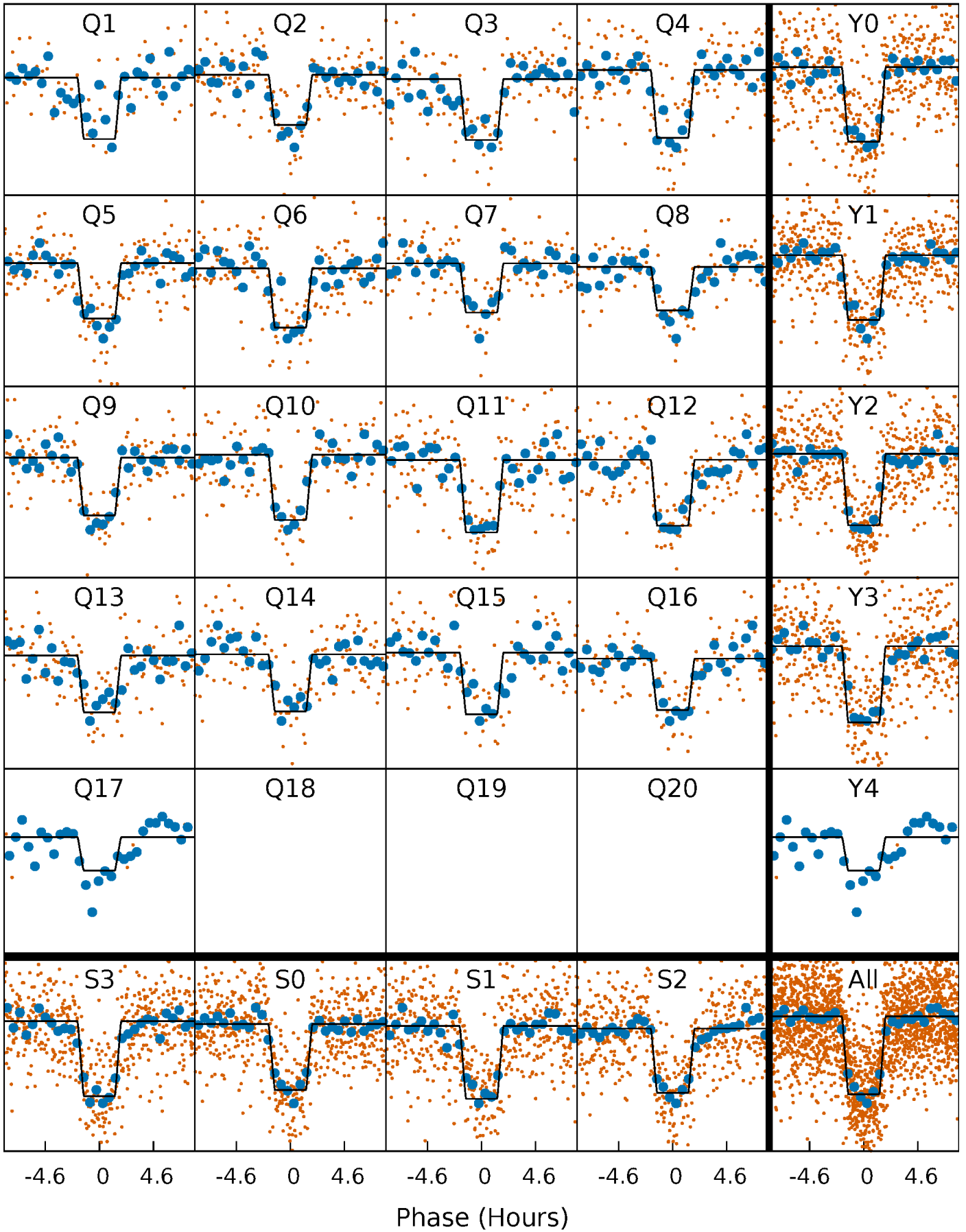
DV Quarter-Phased Transit Curves

TCE 006289257-01 P= 19.674132 Days $T_0=136.922060$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

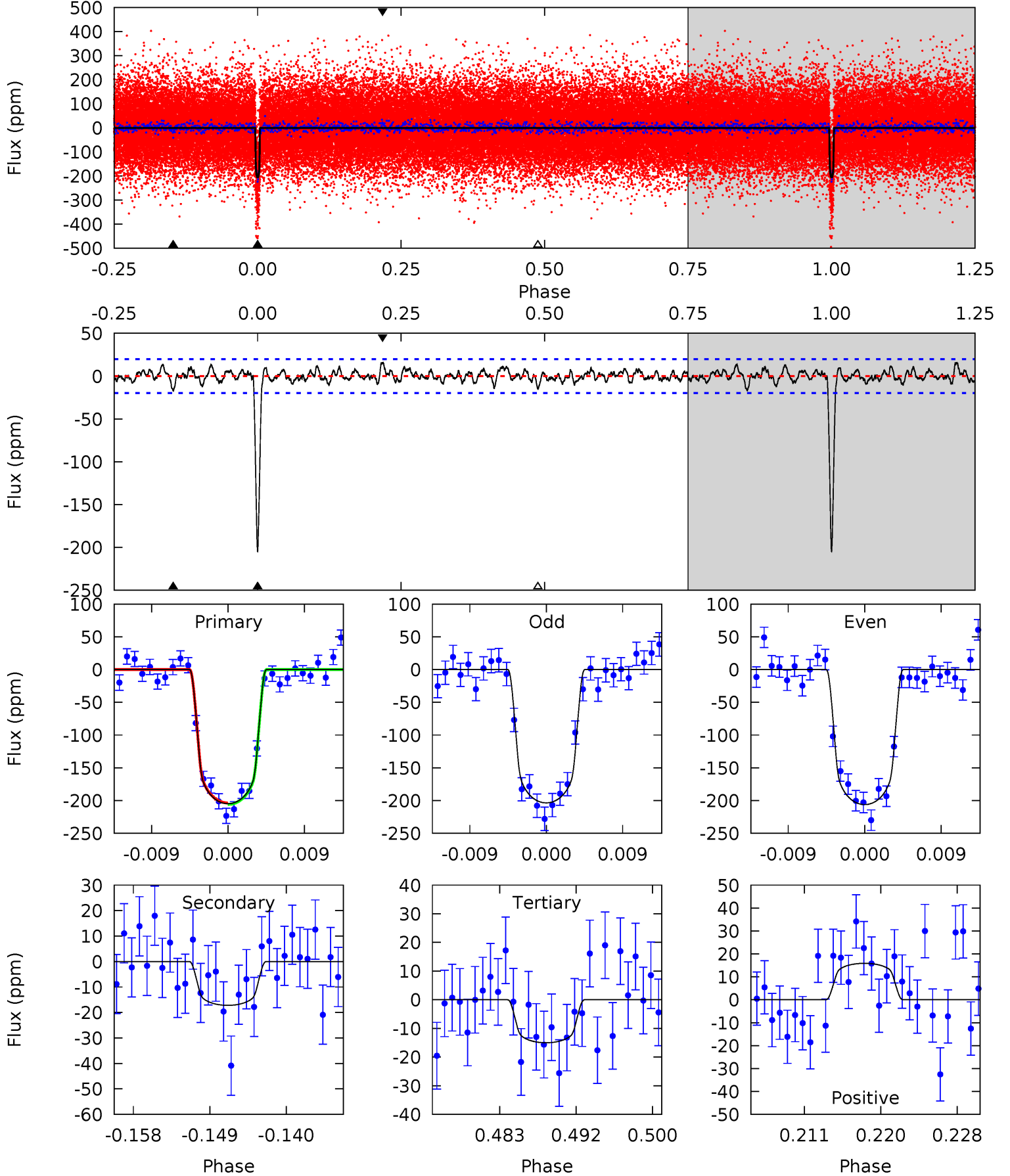
TCE 006289257-01 P= 19.673912 Days $T_0=136.928653$ (BKJD)



DV Model-Shift Uniqueness Test

006289257-01, P = 19.674132 Days, E = 117.247928 Days

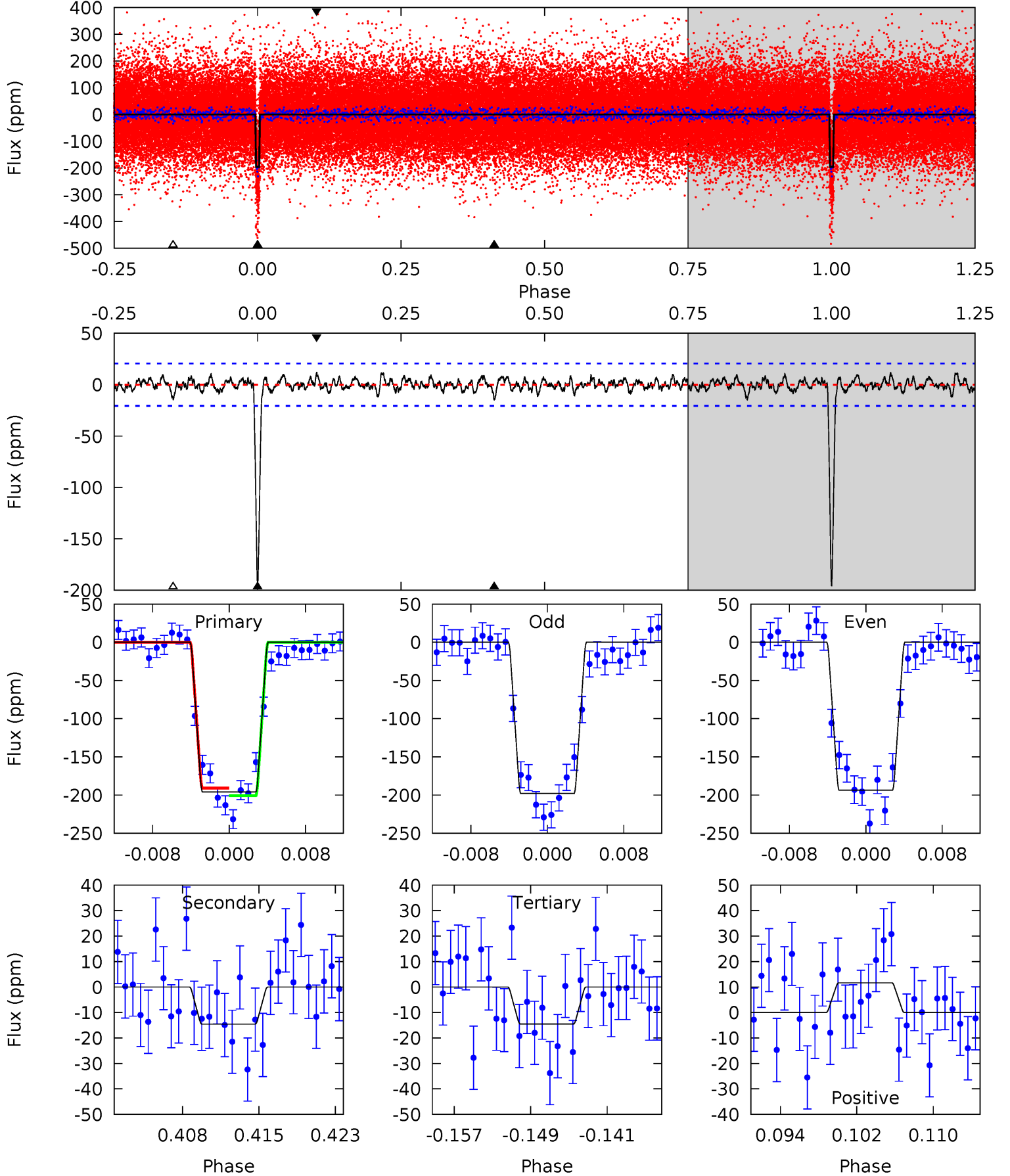
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.3	4.39	3.83	4.06	5.05	2.62	1.26	48.5	48.2	0.56	0.33	0.33	0.99	0.07	0.28



Alt Model-Shift Uniqueness Test

006289257-01, $P = 19.673912$ Days, $E = 117.254741$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.2	3.59	3.57	2.87	5.07	2.66	1.04	44.7	45.4	0.03	0.73	0.54	1.00	0.06	1.22



Stellar Parameters For KIC 006289257

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6023^{+120}_{-132}	$4.423^{+0.054}_{-0.126}$	$-0.080^{+0.150}_{-0.150}$	$1.031^{+0.168}_{-0.084}$	$1.027^{+0.075}_{-0.068}$	$1.319^{+0.318}_{-0.462}$
	+2%/-2%	+1%/-3%	+188%/-188%	+16%/-8%	+7%/-7%	+24%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006289257-01 / KOI 0307.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 4	$1.78^{+0.25}_{-0.20}$	1000^{+48}_{-33}	3563^{+193}_{-199}	61^{+25}_{-19}
Alt.	-15 ± 4	$1.64^{+0.26}_{-0.20}$	1004^{+47}_{-35}	3564^{+214}_{-219}	61^{+28}_{-22}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

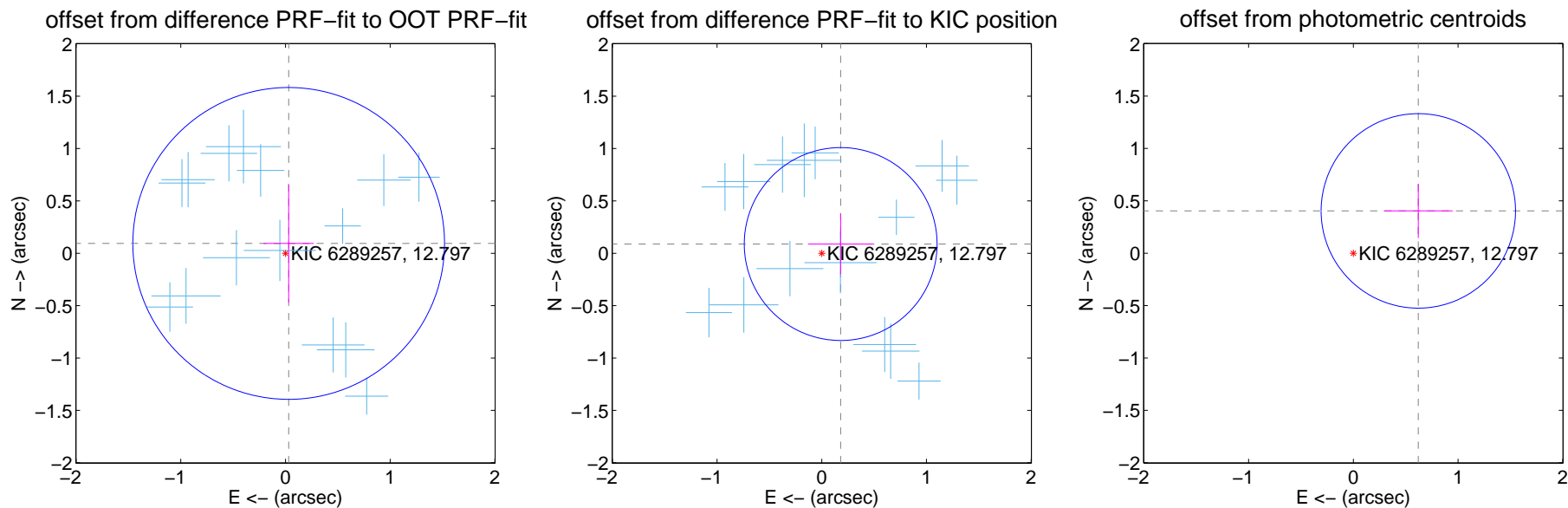
DV Centroid Data

Supplemental centroid analysis for 006289257-01. Kepler magnitude: 12.80. Transit SNR 34.12

There are 15 quarters with good PRF difference image offsets

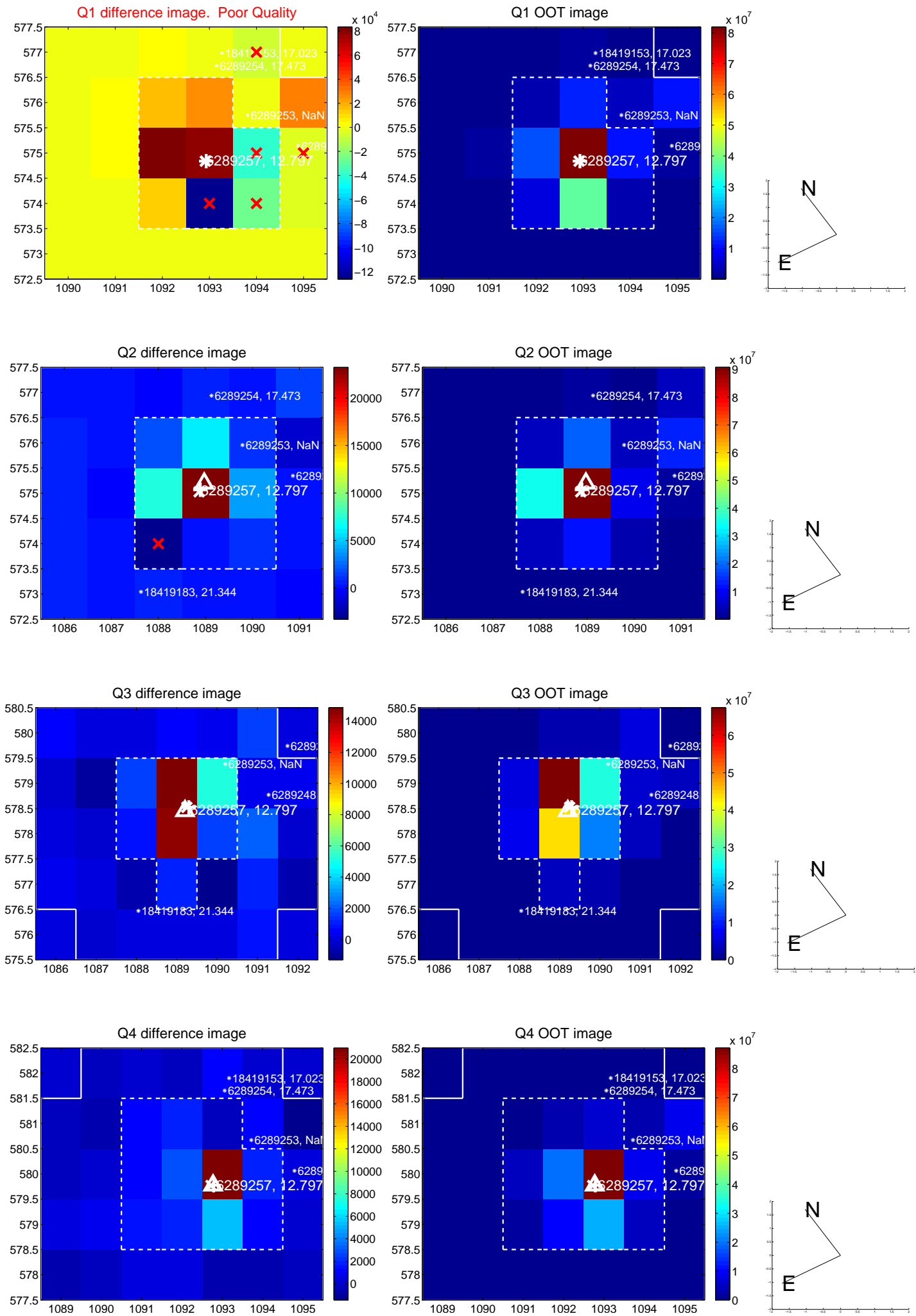
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.496	0.20	-0.031 ± 0.240	0.094 ± 0.565
PRF-fit source offset from KIC position	0.201 ± 0.307	0.66	-0.181 ± 0.312	0.088 ± 0.287
photometric centroid source offset	0.74 ± 0.31	2.39	-0.62 ± 0.33	0.40 ± 0.26

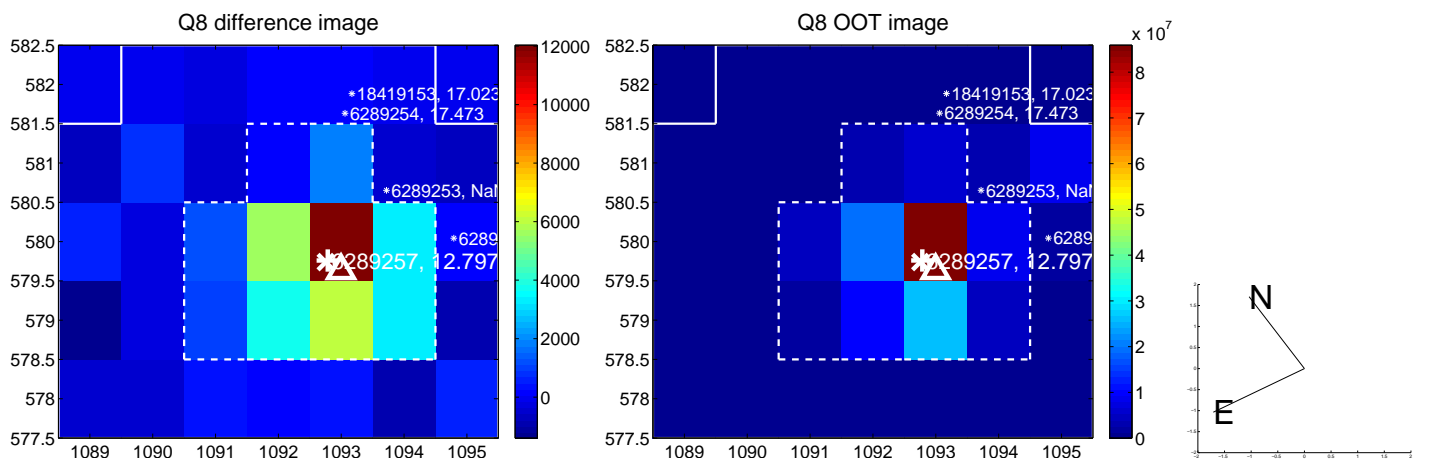
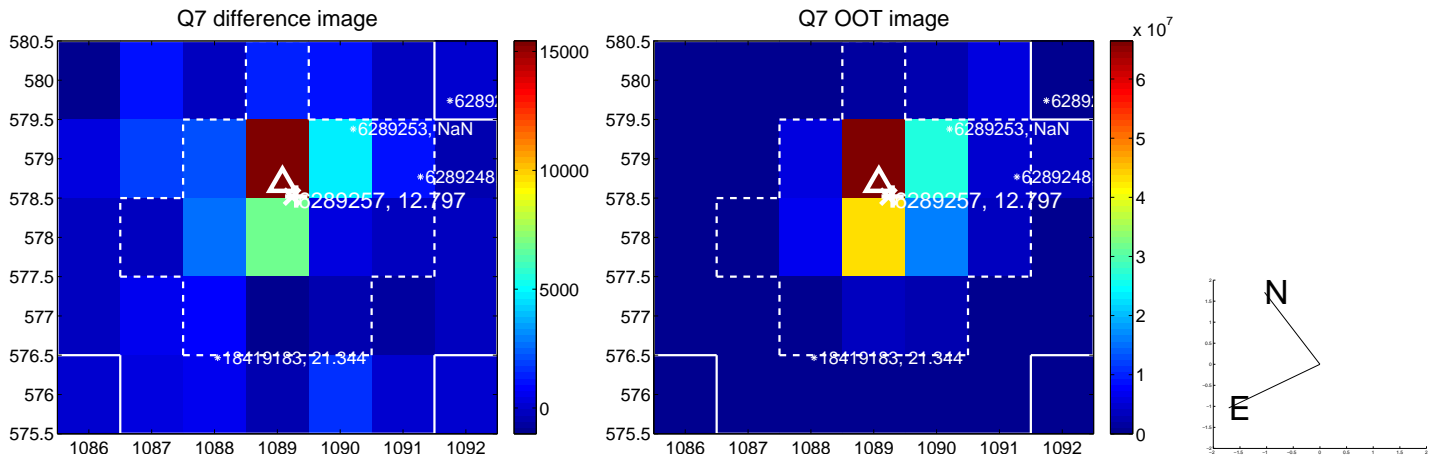
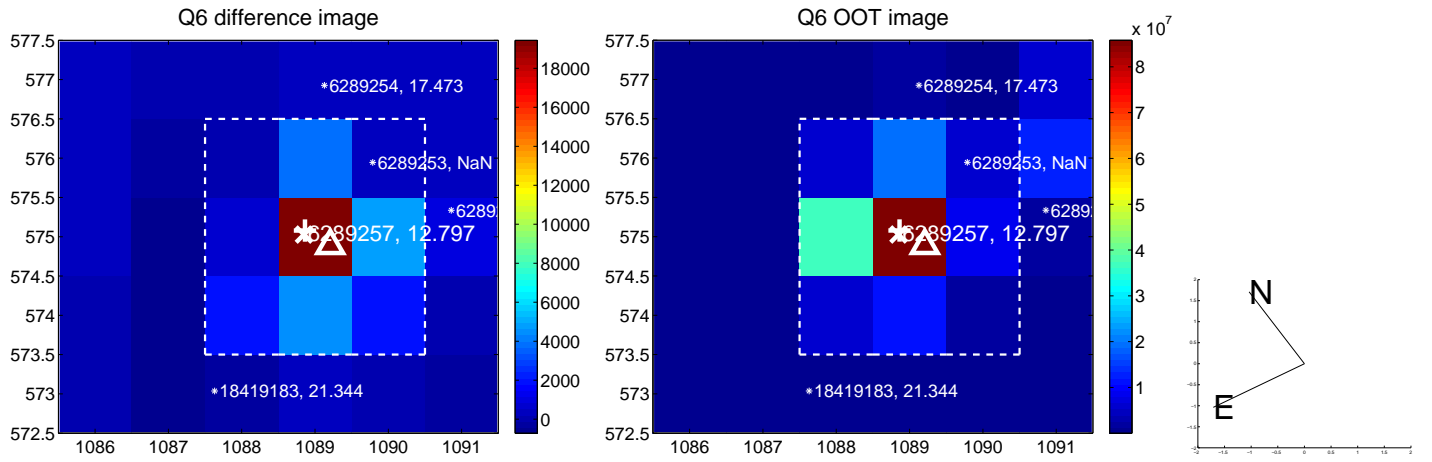
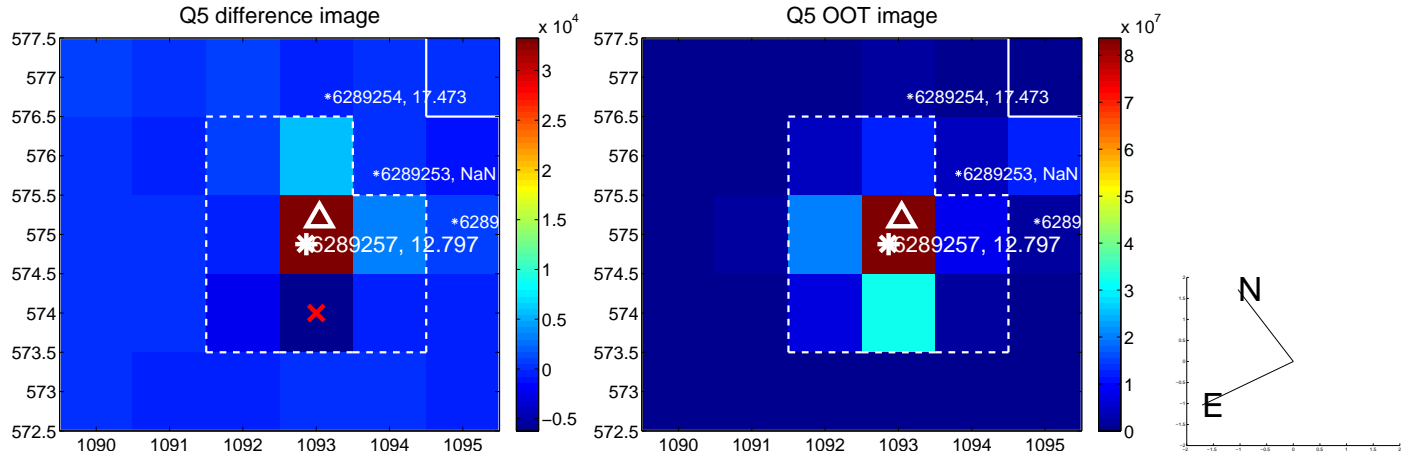


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

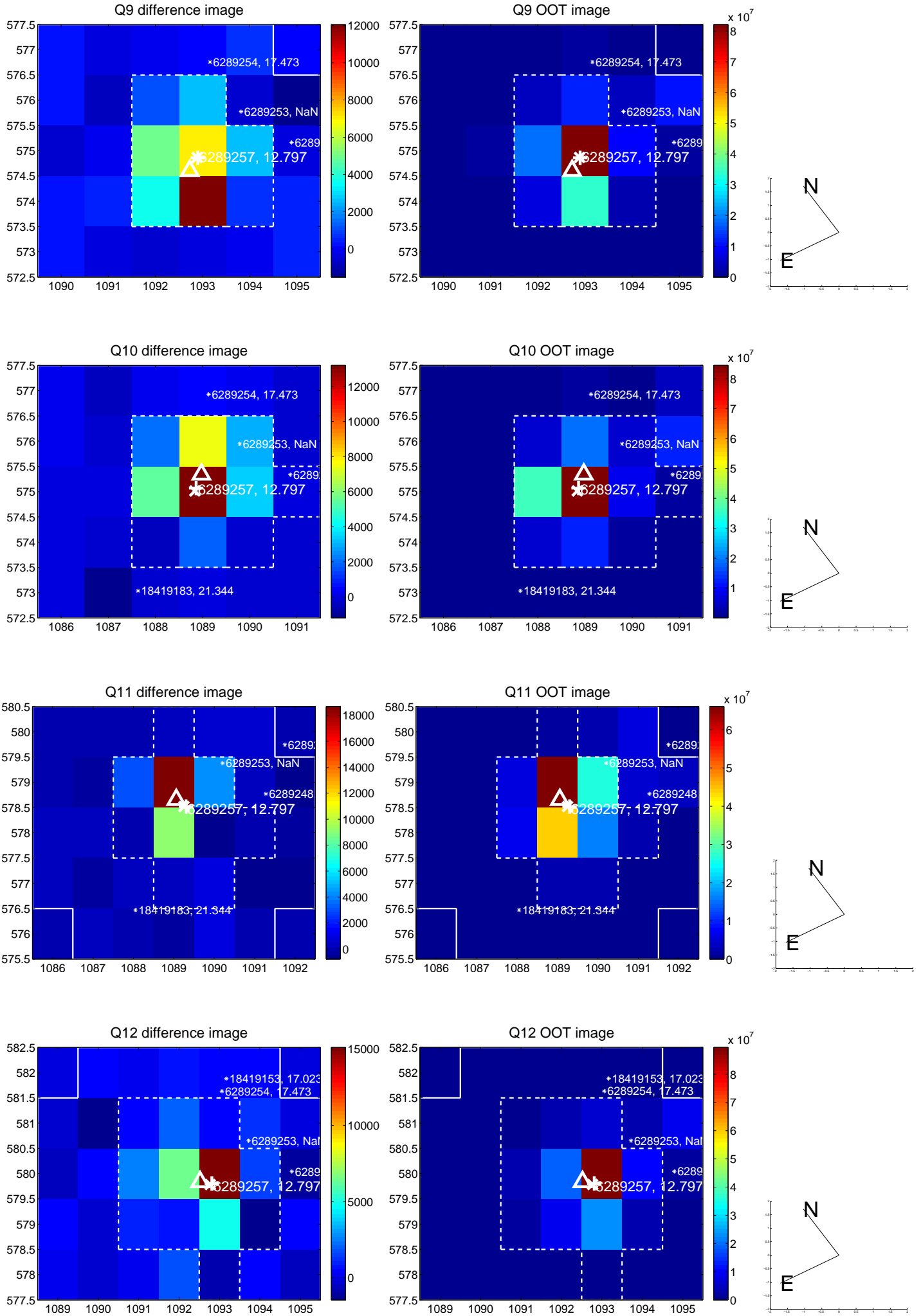
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



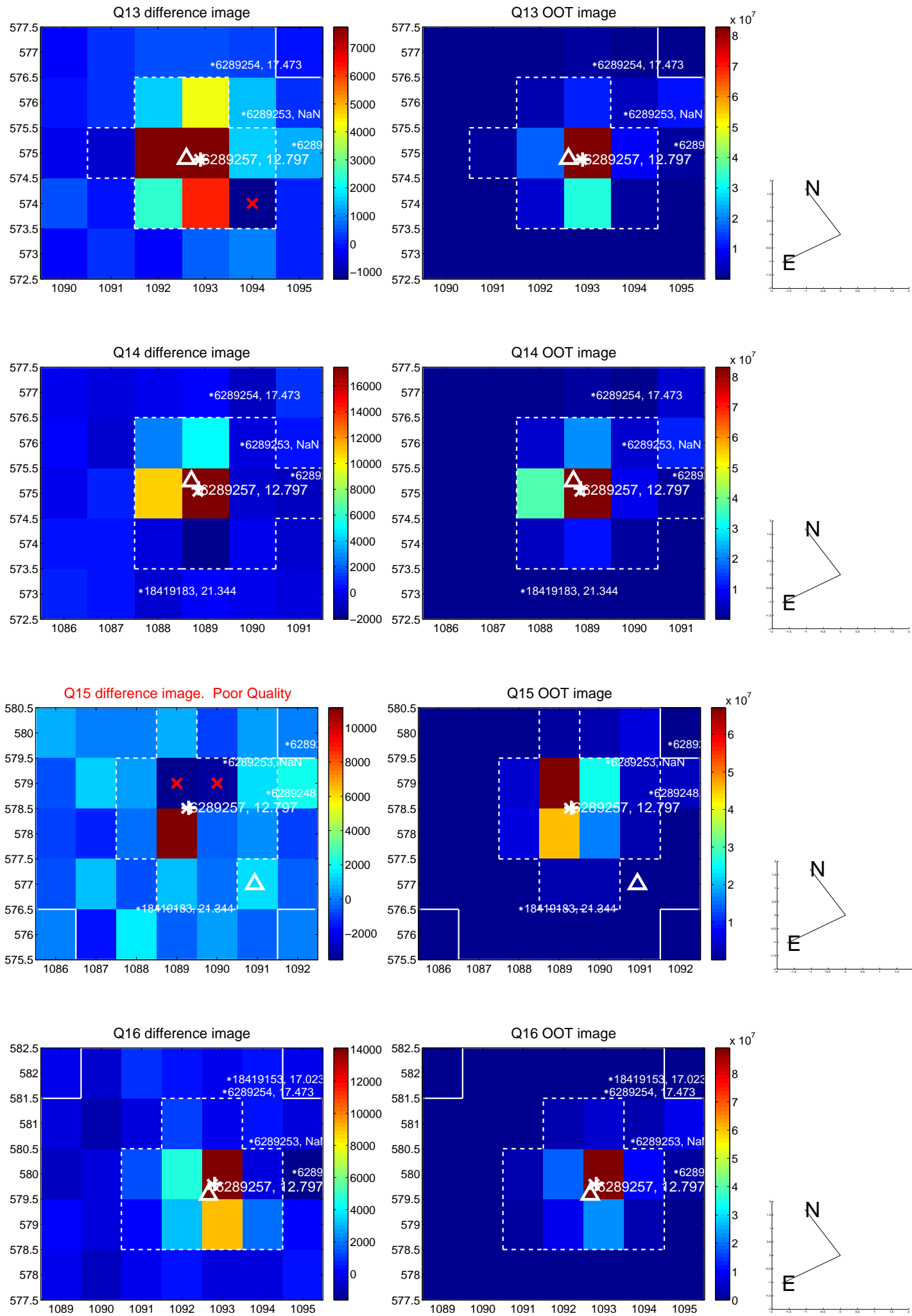
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



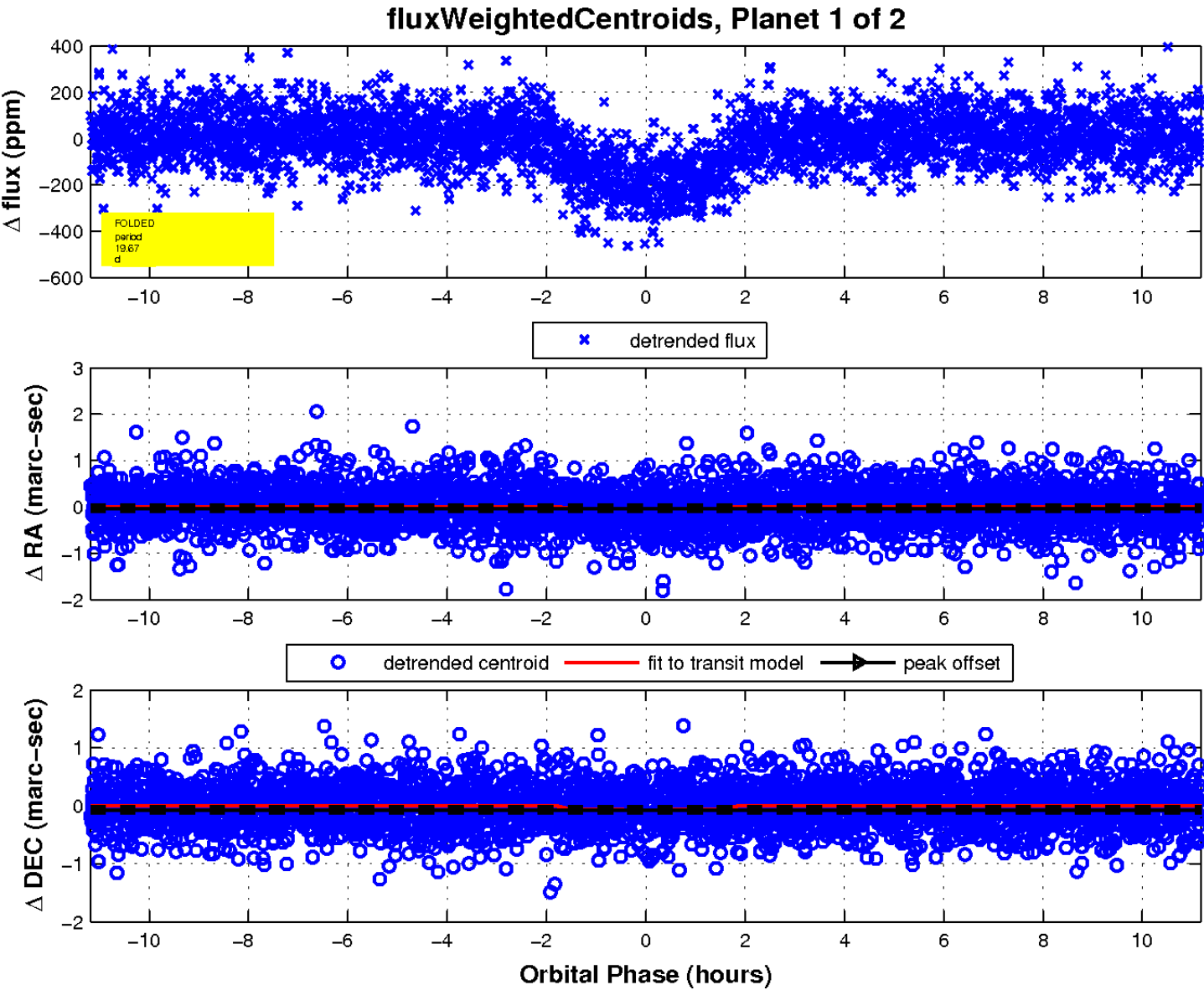
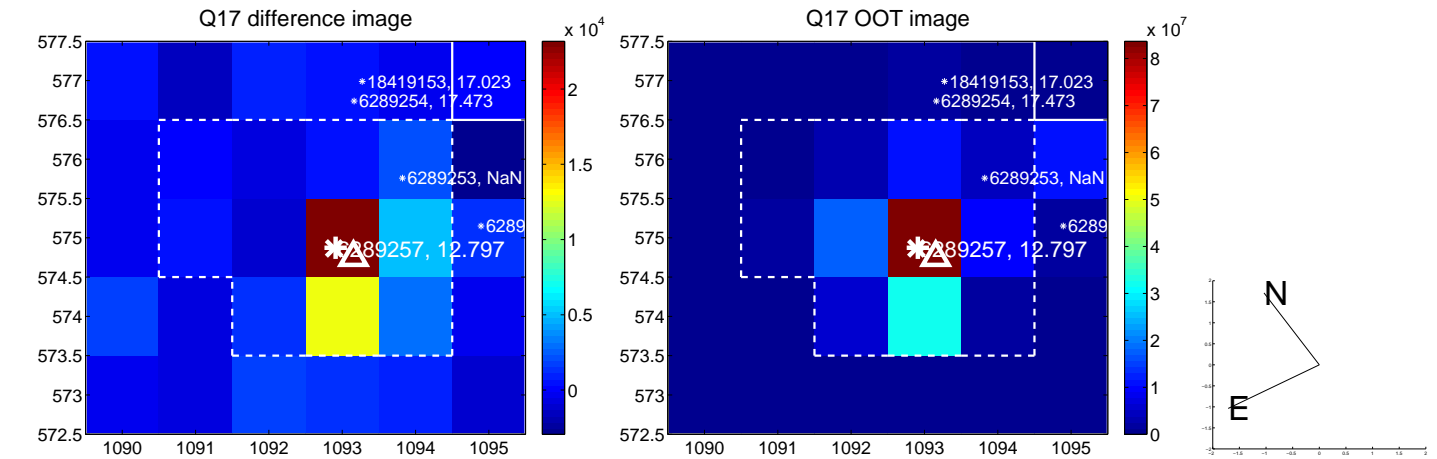
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

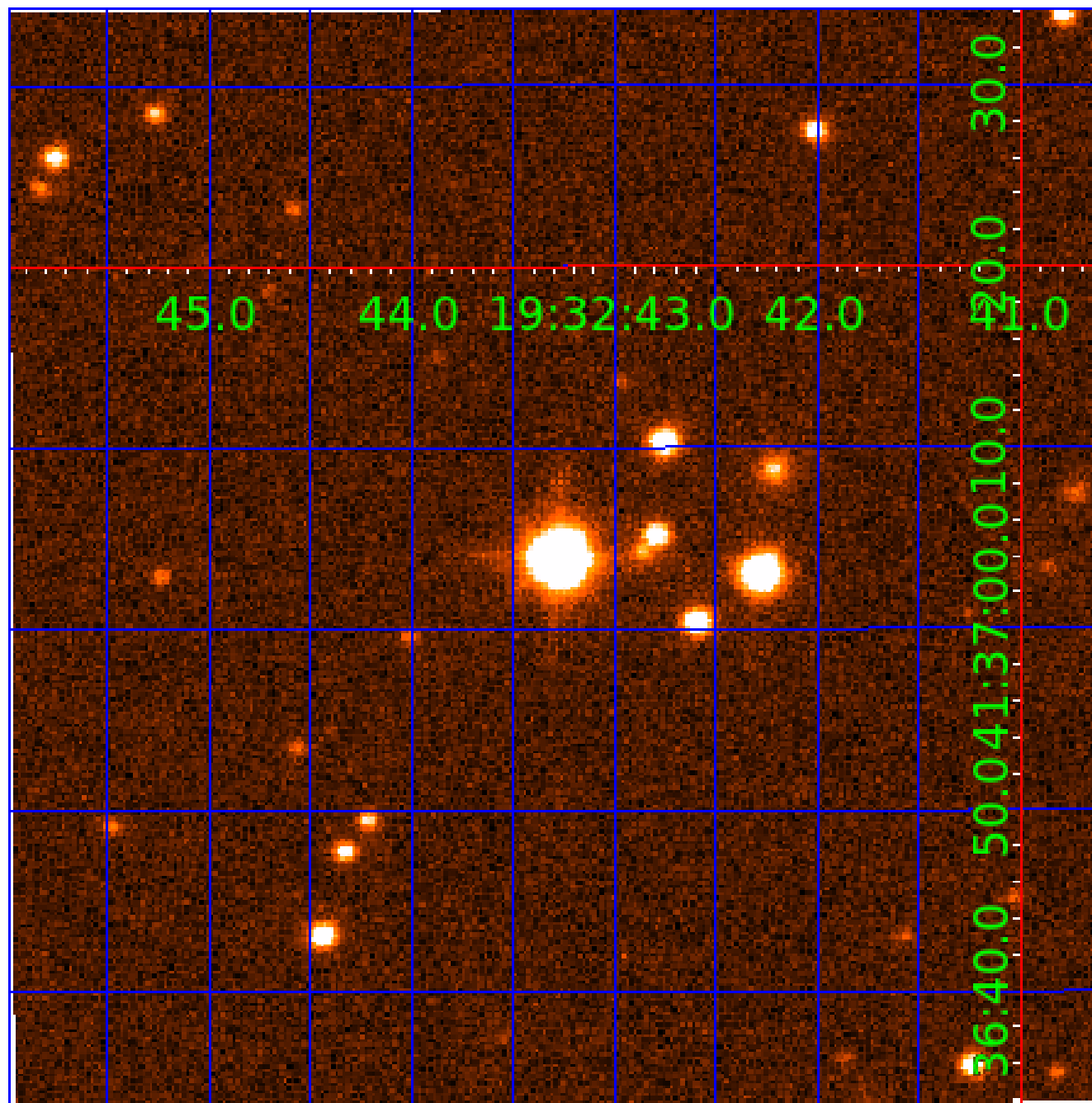


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006289257

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006289257-01	OBS	0307.01	19.674132	136.922060	205.8	3.728	32.9	34.1	1.03	6023	1.75	60.51
006289257-02	OBS	0307.02	5.211049	131.538012	102.9	3.398	30.2	33.0	1.03	6023	1.23	355.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006289257-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
006289257-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

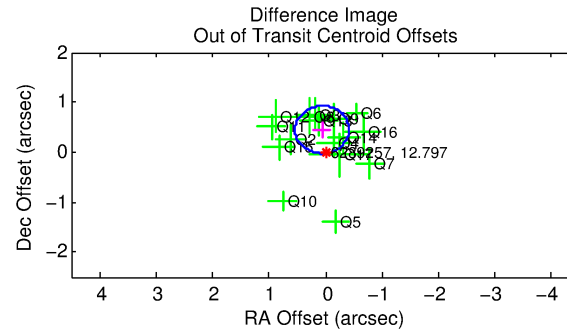
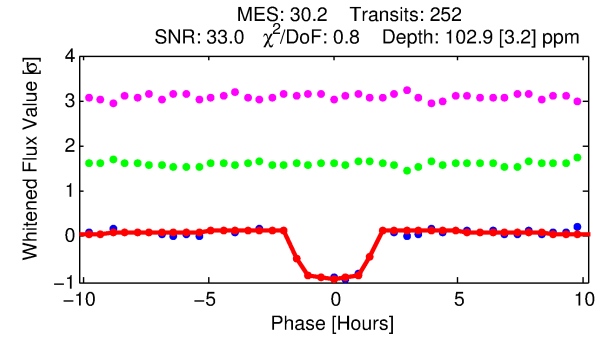
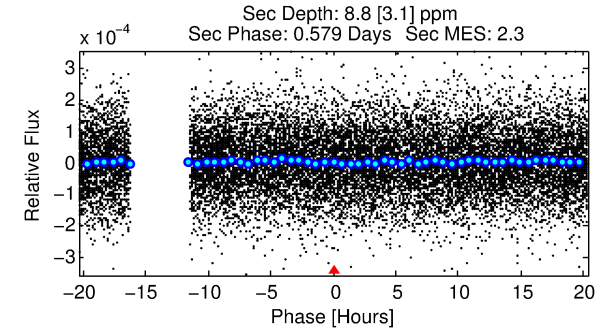
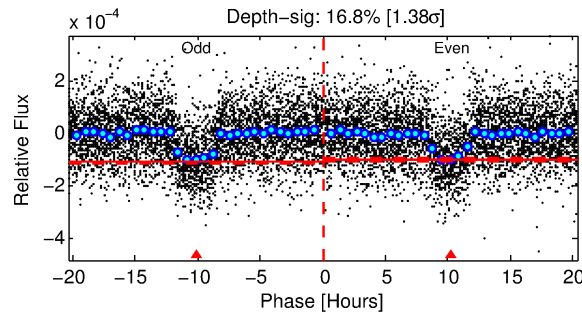
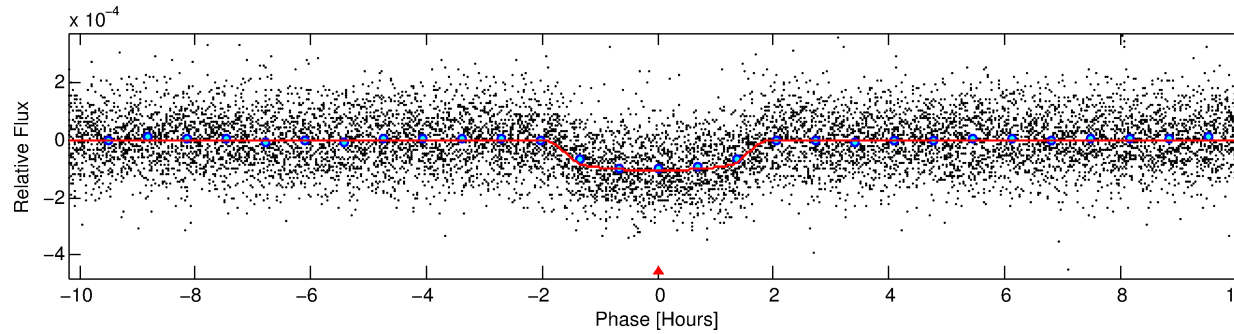
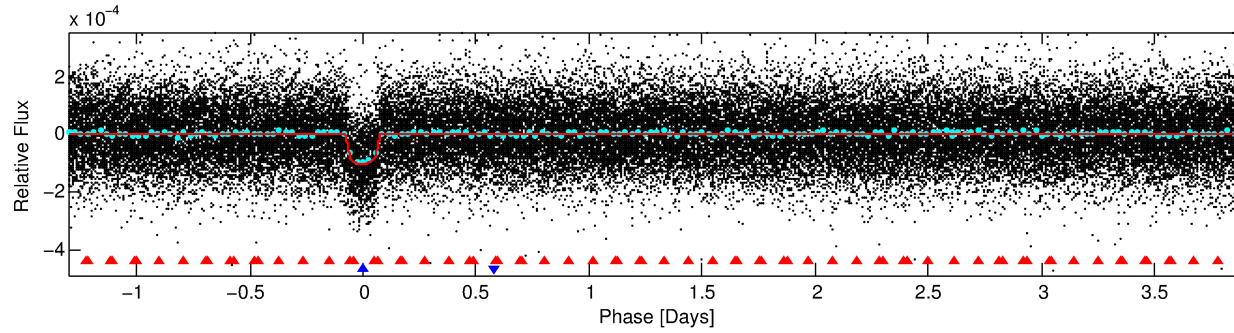
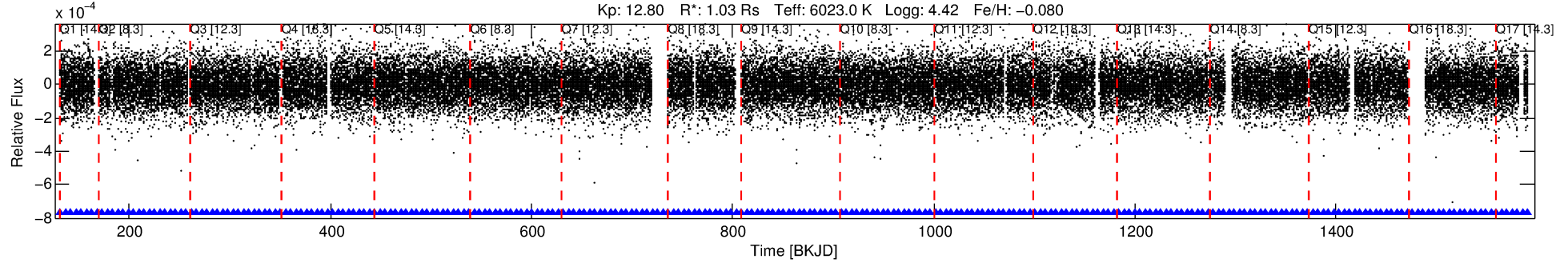
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006289257-02

No Significant Match Found

DV One-Page Summary

KIC: 6289257 Candidate: 2 of 2 Period: 5.211 d
KOI: K00307.02 Corr: 0.986



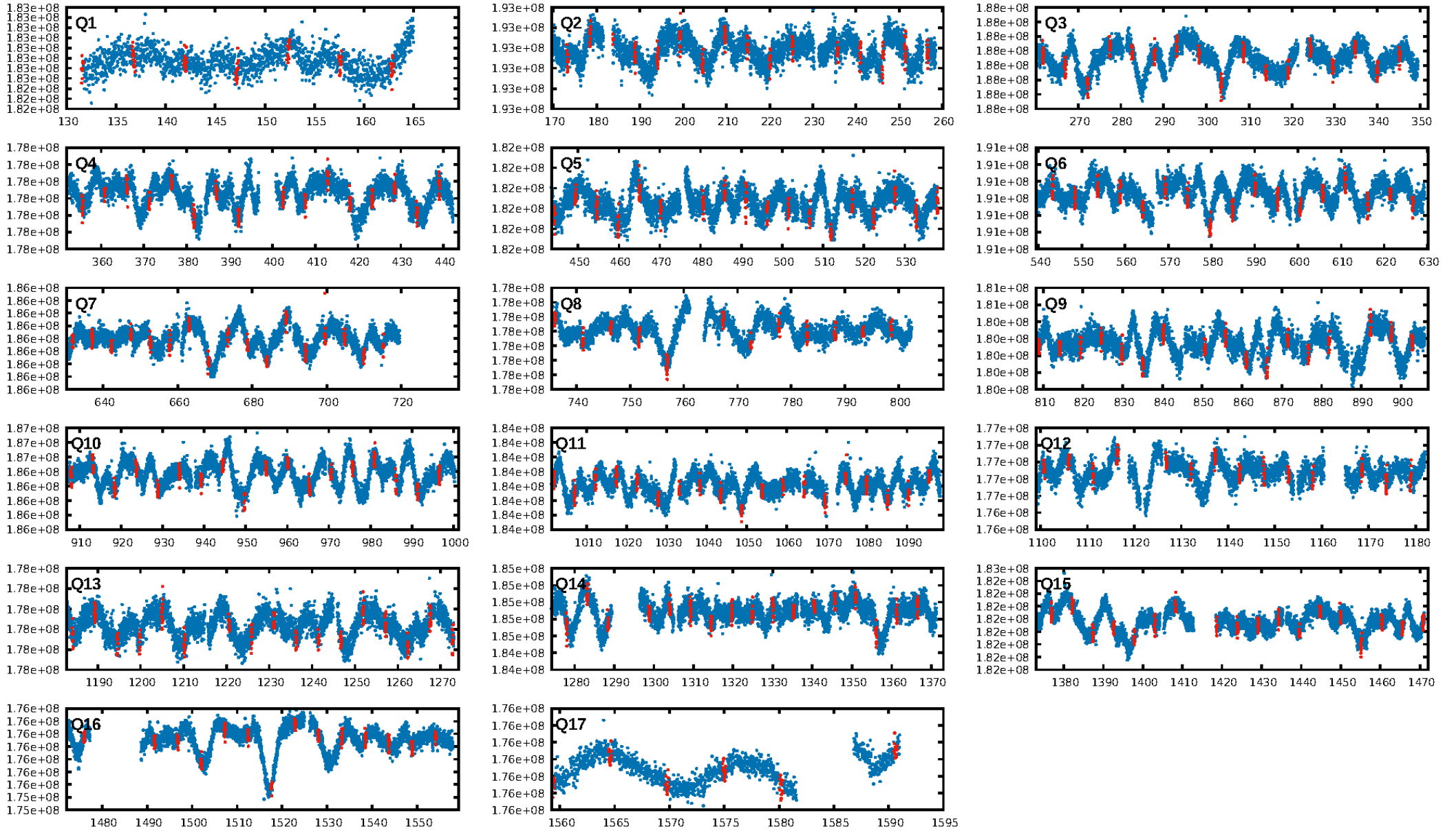
DV Fit Results:

Period = 5.21105 [0.00001] d
Epoch = 131.5380 [0.0016] BKJD
Rp/R* = 0.0109 [0.0017]
a/R* = 5.56 [4.24]
b = 0.90 [0.18]
Seff = 355.70 [84.84]
Teq = 1107 [66] K
Rp = 1.23 [0.27] Re
a = 0.0594 [0.0086] AU
Ag = 11.23 [5.83] [1.75 σ]
Teffp = 3134 [374] K [5.33 σ]

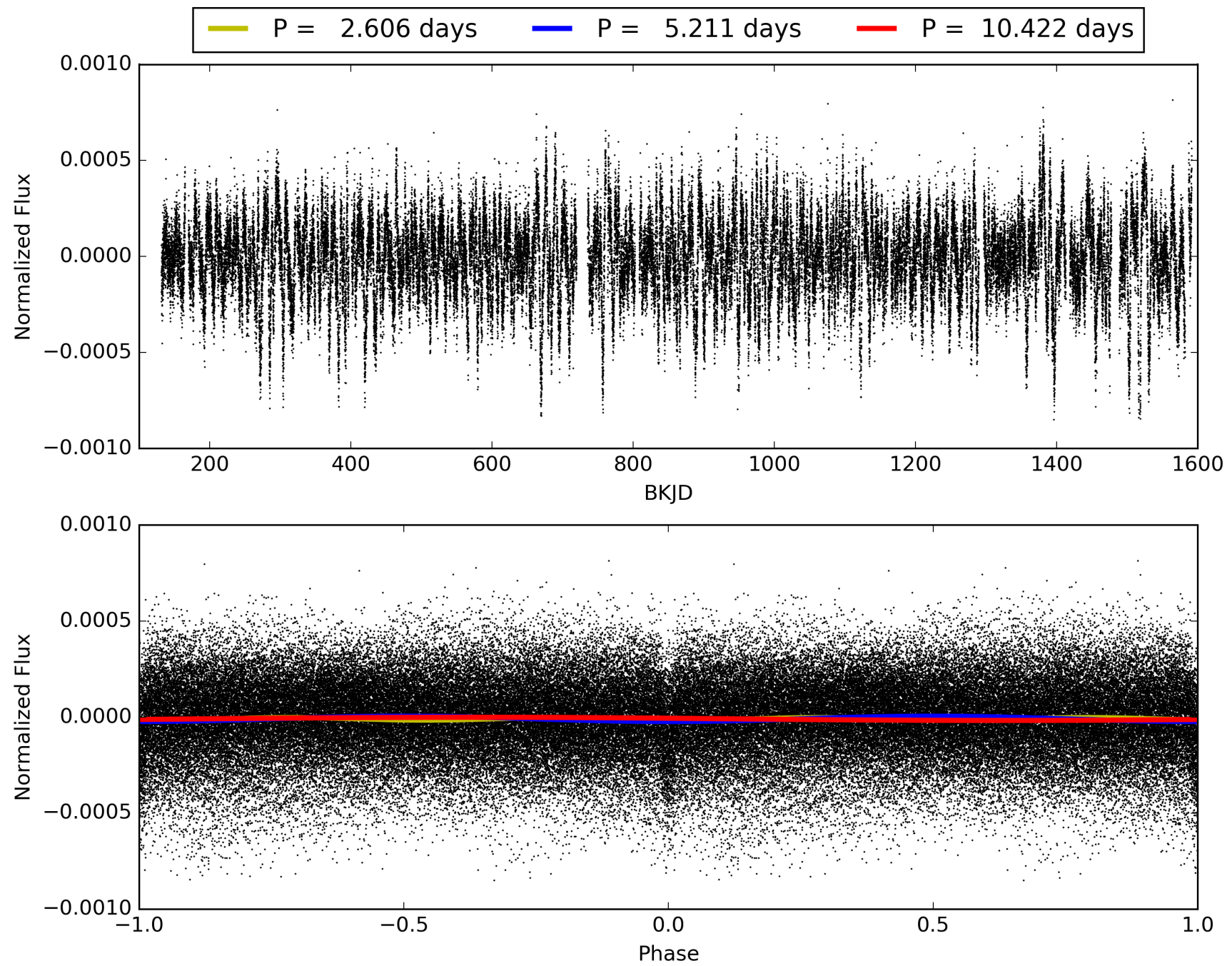
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [68.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.32e-190
RollingBand-fgt: 1.00 [240/240]
GhostDiagnostic-chr: 3.333
Centroid-sig: 0.0%
Centroid-so: 0.548 arcsec [1.61 σ]
OotOffset-rm: 0.456 arcsec [2.86 σ]
KicOffset-rm: 0.420 arcsec [2.60 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006289257-02, PDC Light Curves

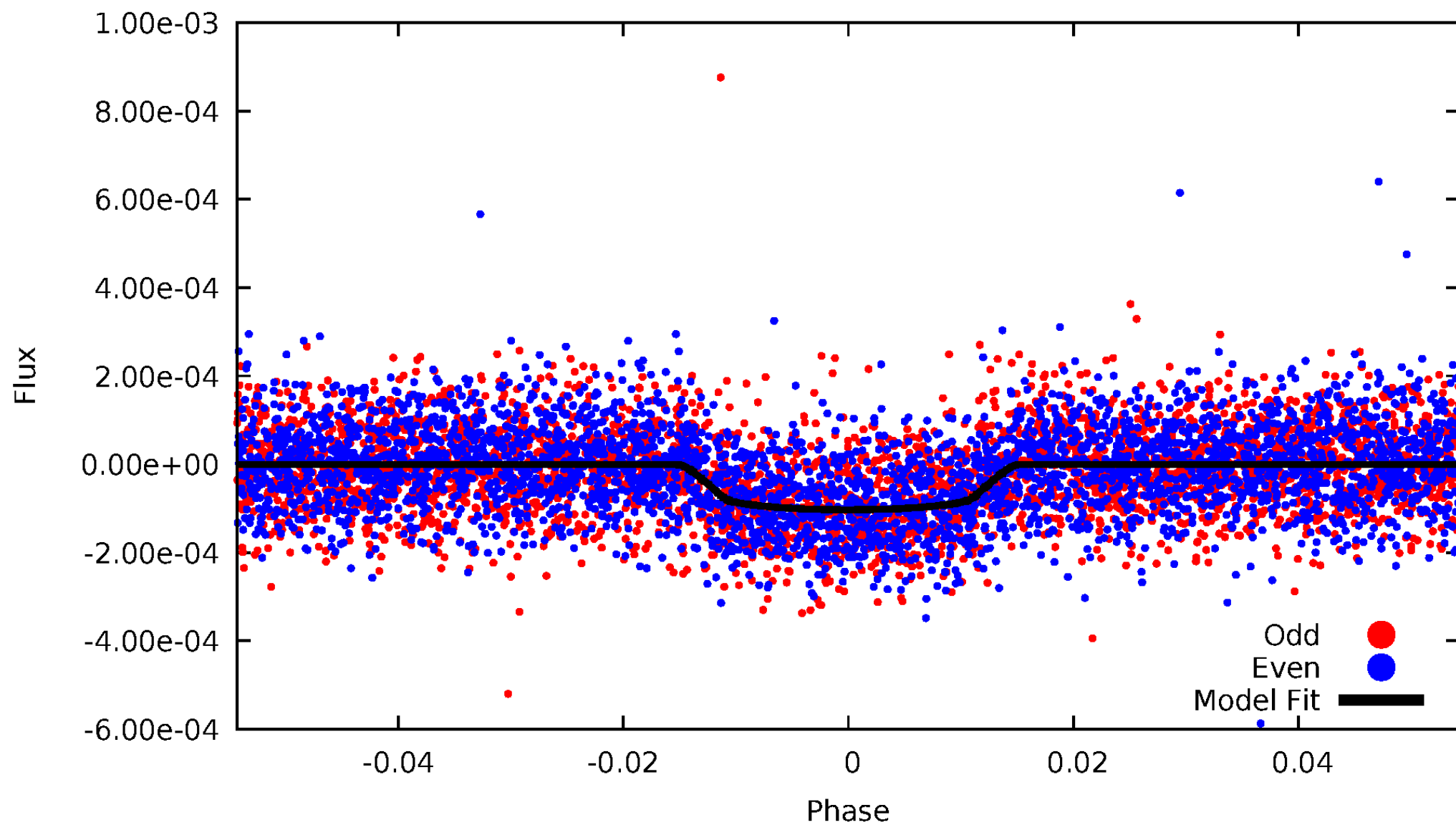


TCE 006289257-02



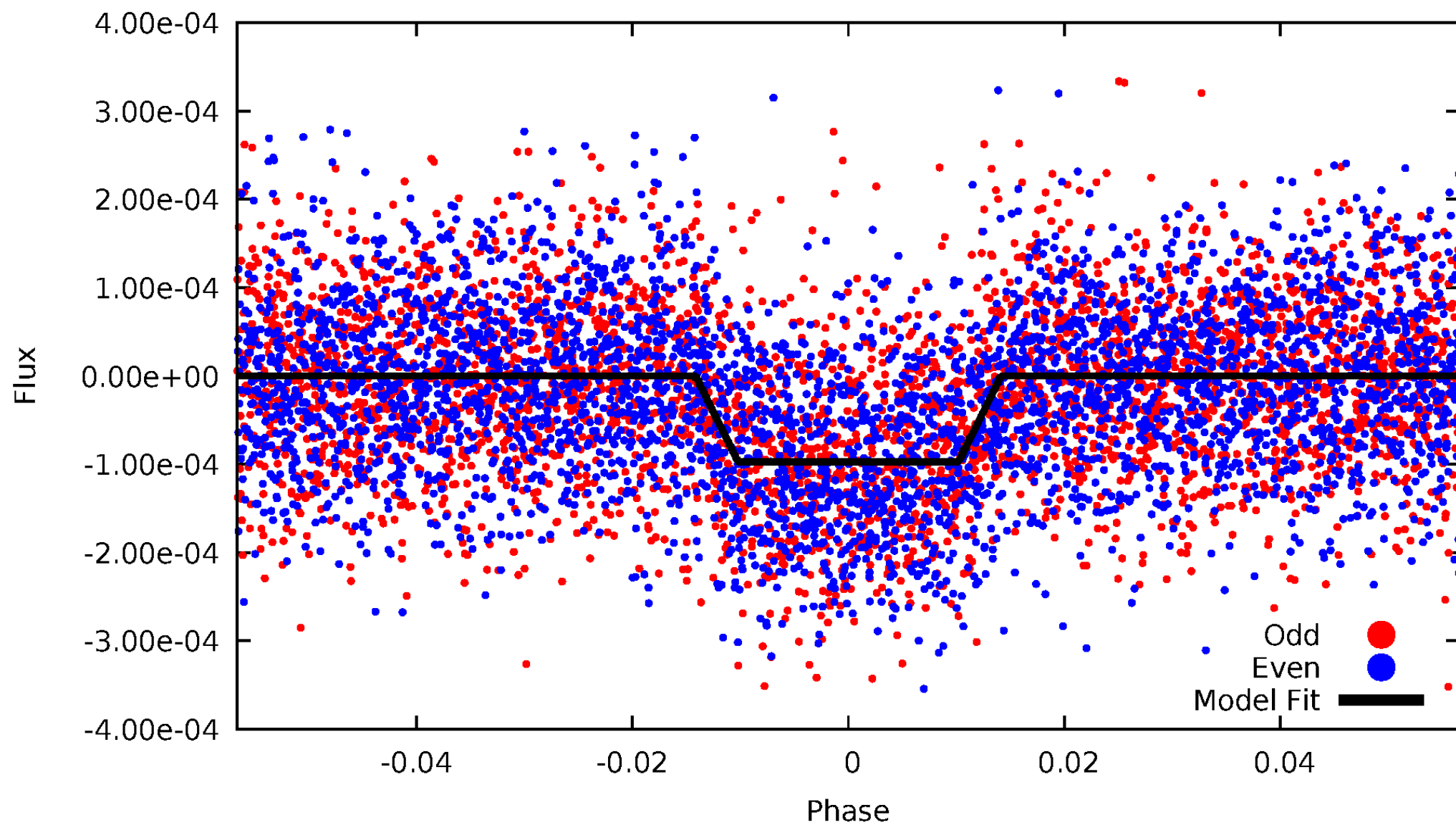
DV Odd/Even

TCE 006289257-02



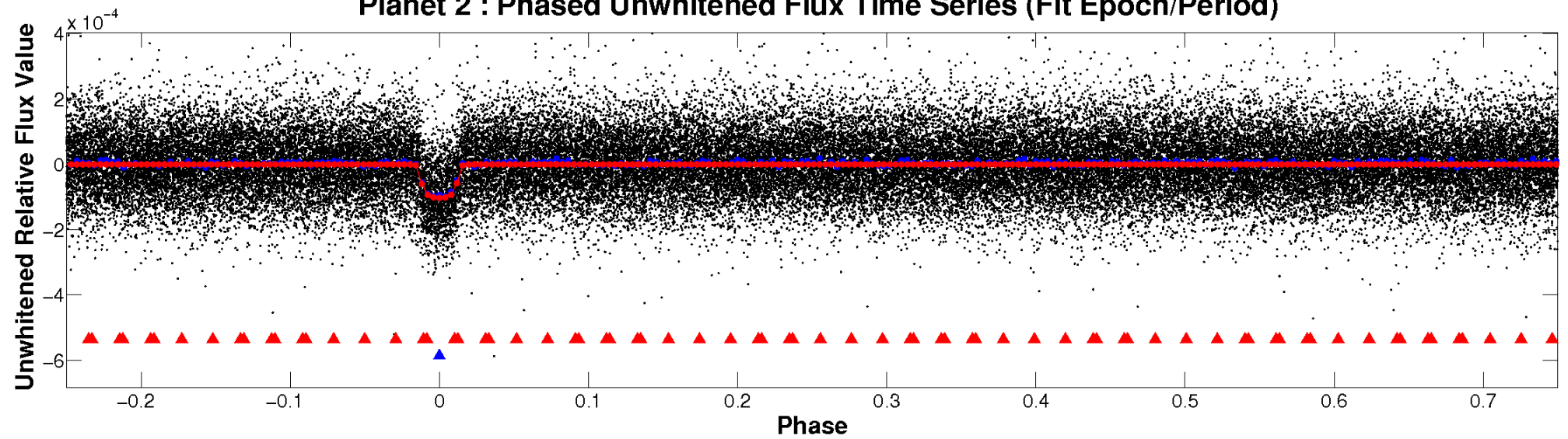
ALT Odd/Even

TCE 006289257-02

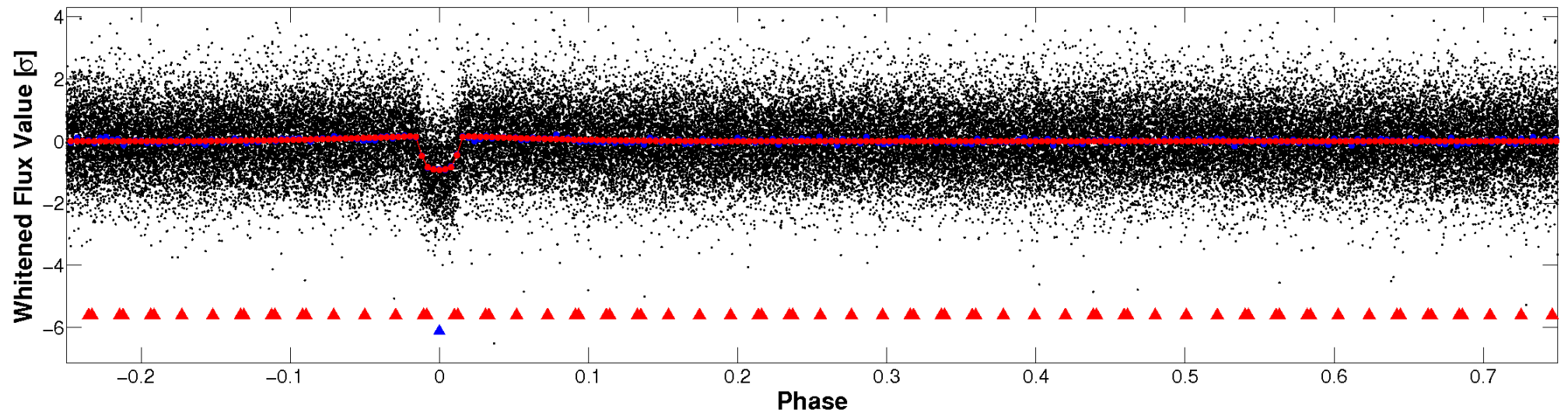


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

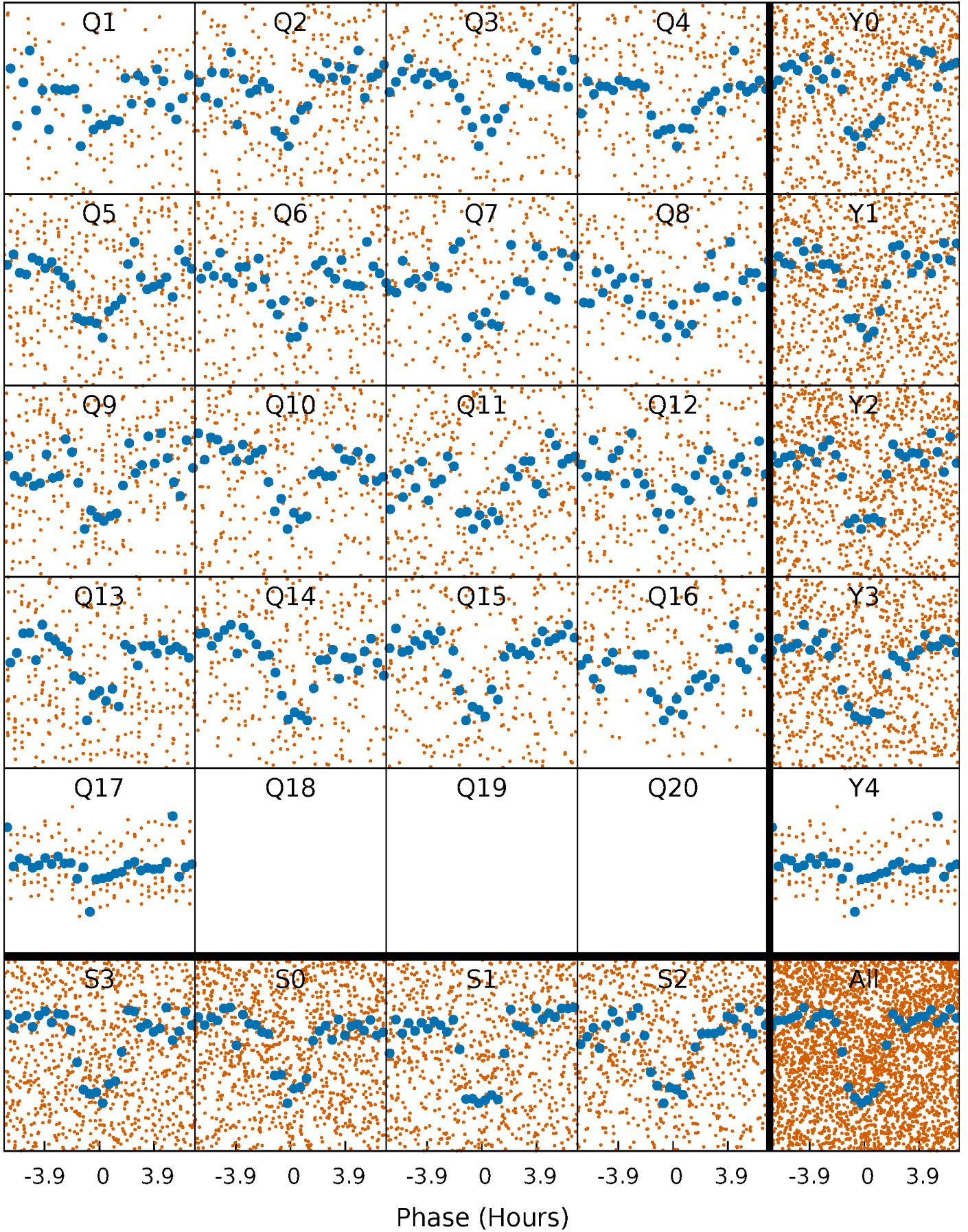


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



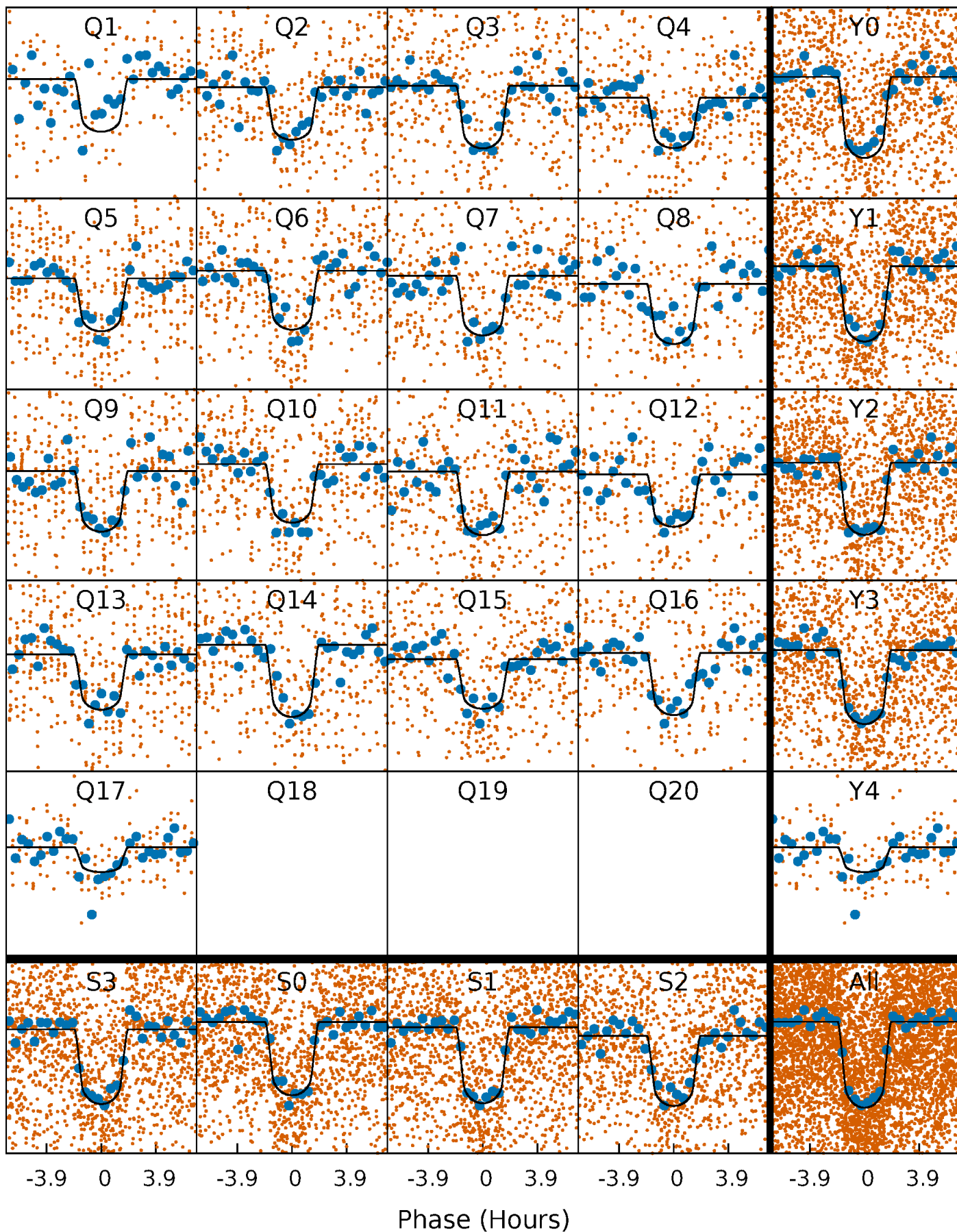
PDC Quarter-Phased Transit Curves

TCE 006289257-02 P= 5.211049 Days $T_0=131.538012$ (BKJD)



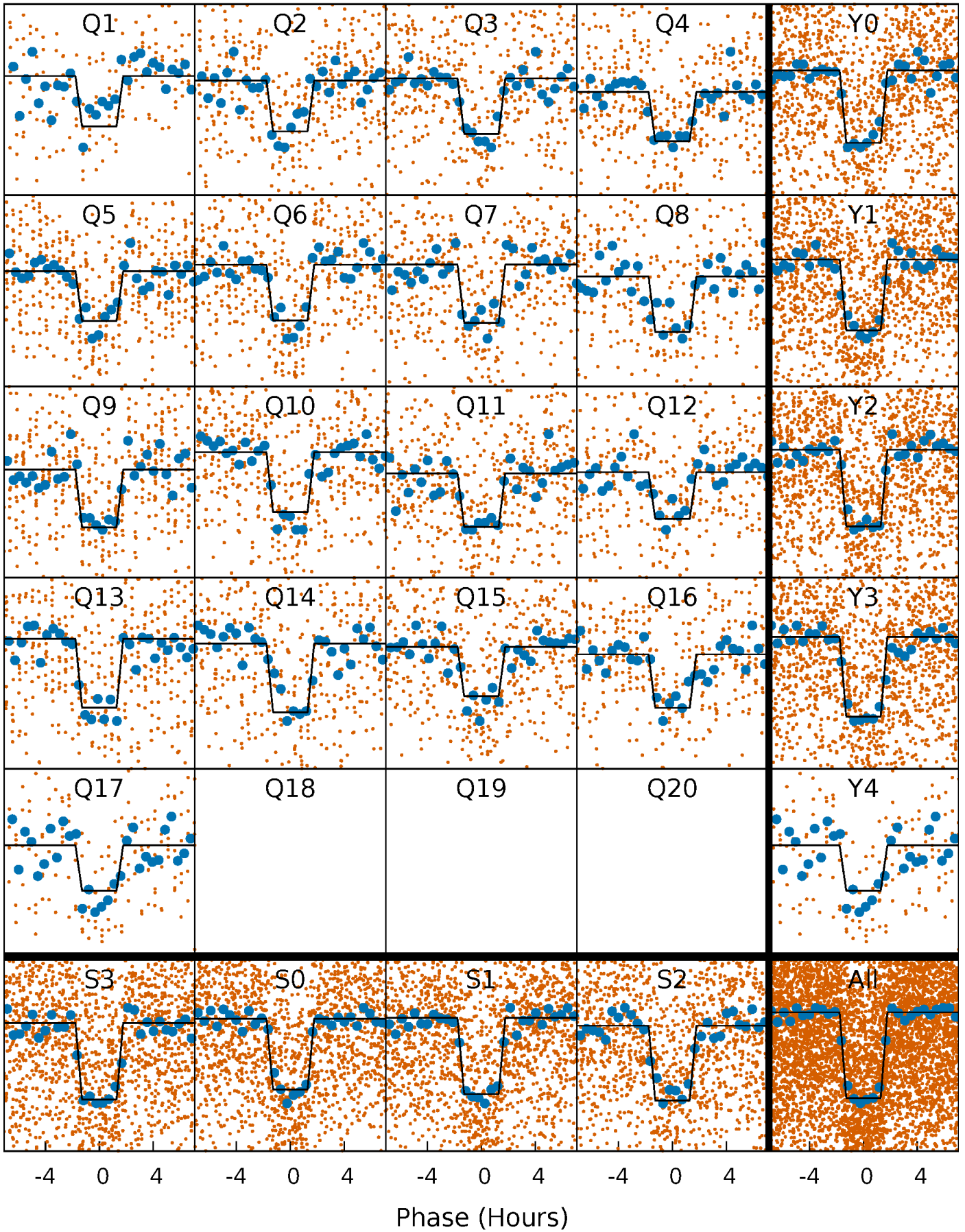
DV Quarter-Phased Transit Curves

TCE 006289257-02 P= 5.211049 Days $T_0=131.538012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

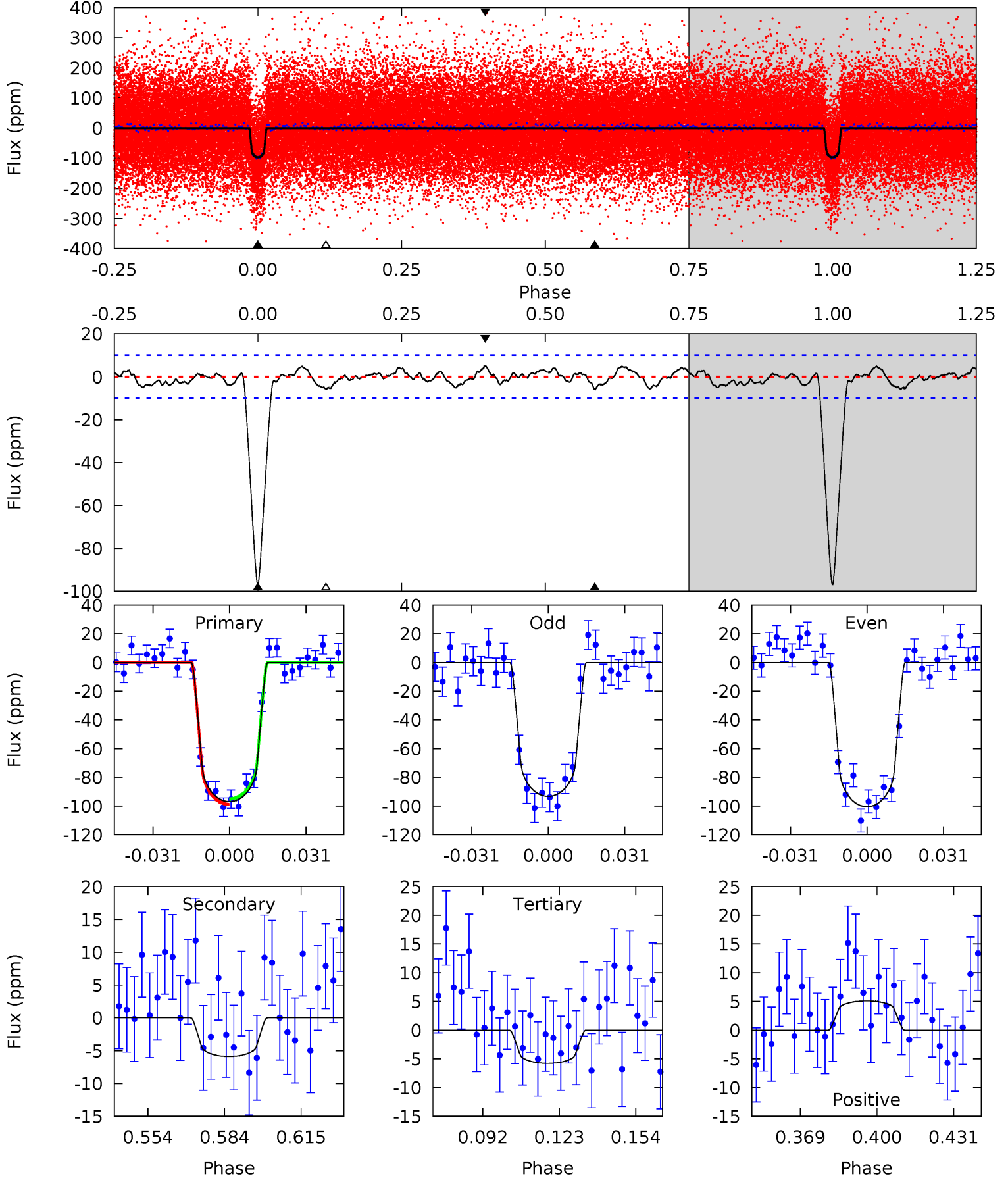
TCE 006289257-02 P= 5.211016 Days $T_0=131.541465$ (BKJD)



DV Model-Shift Uniqueness Test

006289257-02, P = 5.211049 Days, E = 126.326963 Days

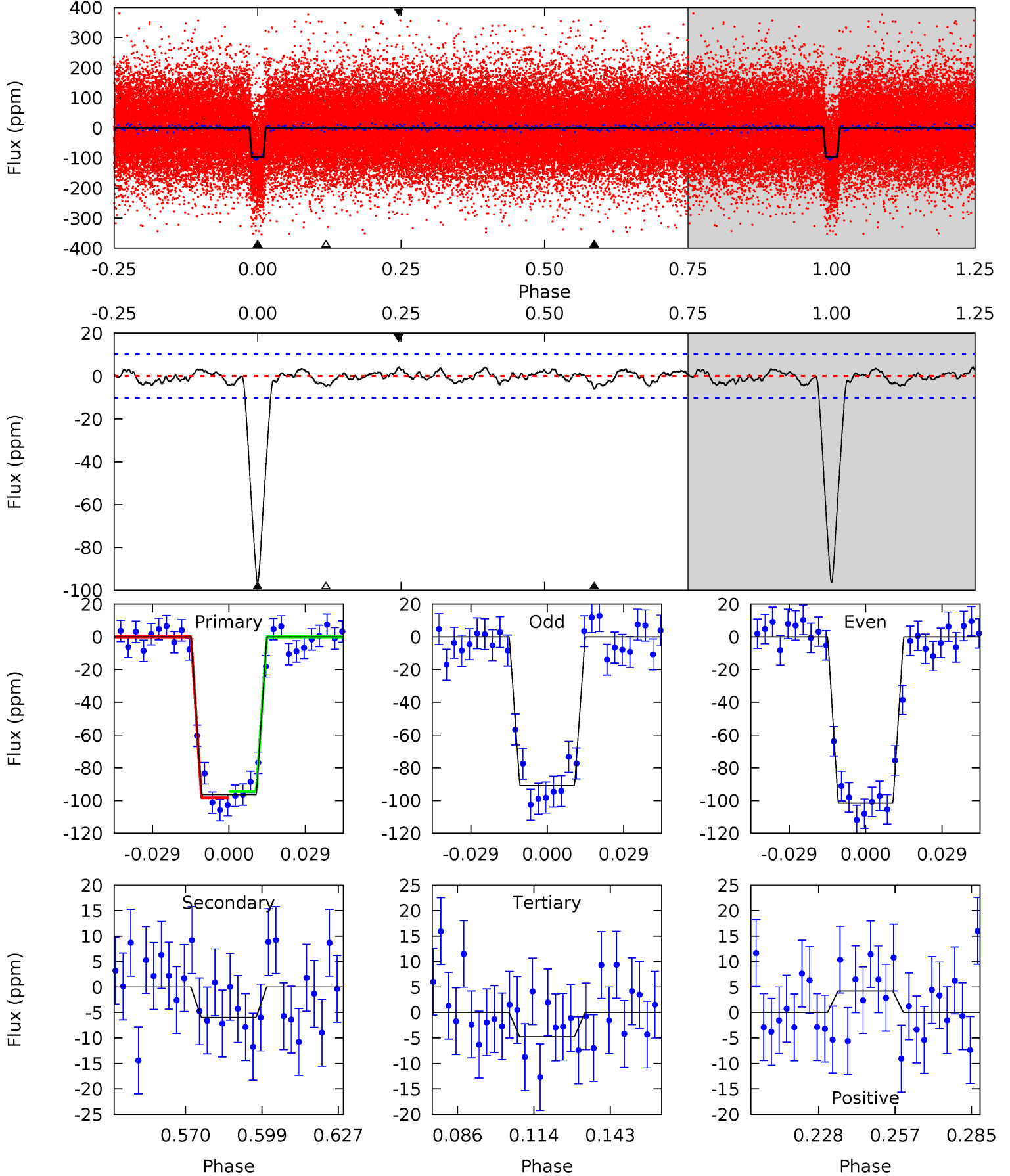
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.3	2.81	2.76	2.44	4.81	2.16	1.20	43.5	43.9	0.05	0.37	1.74	0.97	0.05	0.93



Alt Model-Shift Uniqueness Test

006289257-02, P = 5.211016 Days, E = 126.330449 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.1	2.80	2.23	1.97	4.82	2.19	0.96	42.9	43.2	0.57	0.83	2.54	0.95	0.04	0.88



Stellar Parameters For KIC 006289257

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6023^{+120}_{-132}	$4.423^{+0.054}_{-0.126}$	$-0.080^{+0.150}_{-0.150}$	$1.031^{+0.168}_{-0.084}$	$1.027^{+0.075}_{-0.068}$	$1.319^{+0.318}_{-0.462}$
	+2%/-2%	+1%/-3%	+188%/-188%	+16%/-8%	+7%/-7%	+24%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006289257-02 / KOI 0307.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.24^{+0.22}_{-0.19}$	1559^{+73}_{-53}	3353^{+257}_{-264}	$7.270^{+4.507}_{-3.056}$
Alt.	-6 ± 2	$1.13^{+0.22}_{-0.20}$	1561^{+72}_{-53}	3465^{+295}_{-279}	$8.953^{+5.839}_{-3.844}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

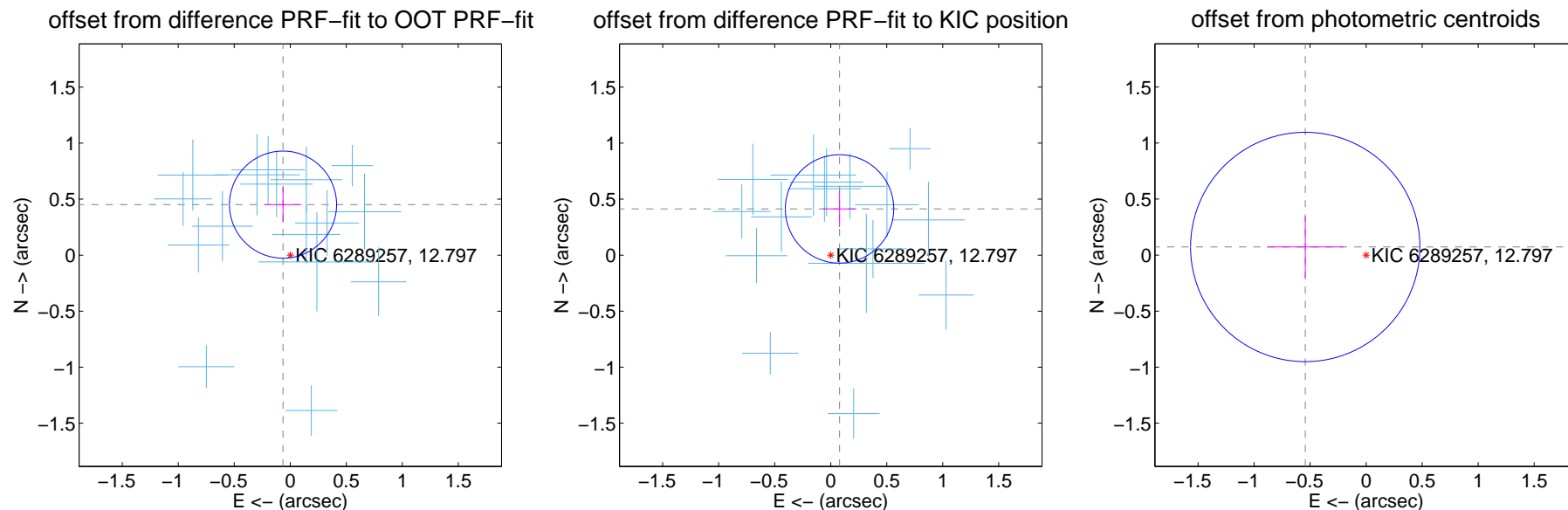
DV Centroid Data

Supplemental centroid analysis for 006289257-02. Kepler magnitude: 12.80. Transit SNR 32.99

There are 16 quarters with good PRF difference image offsets

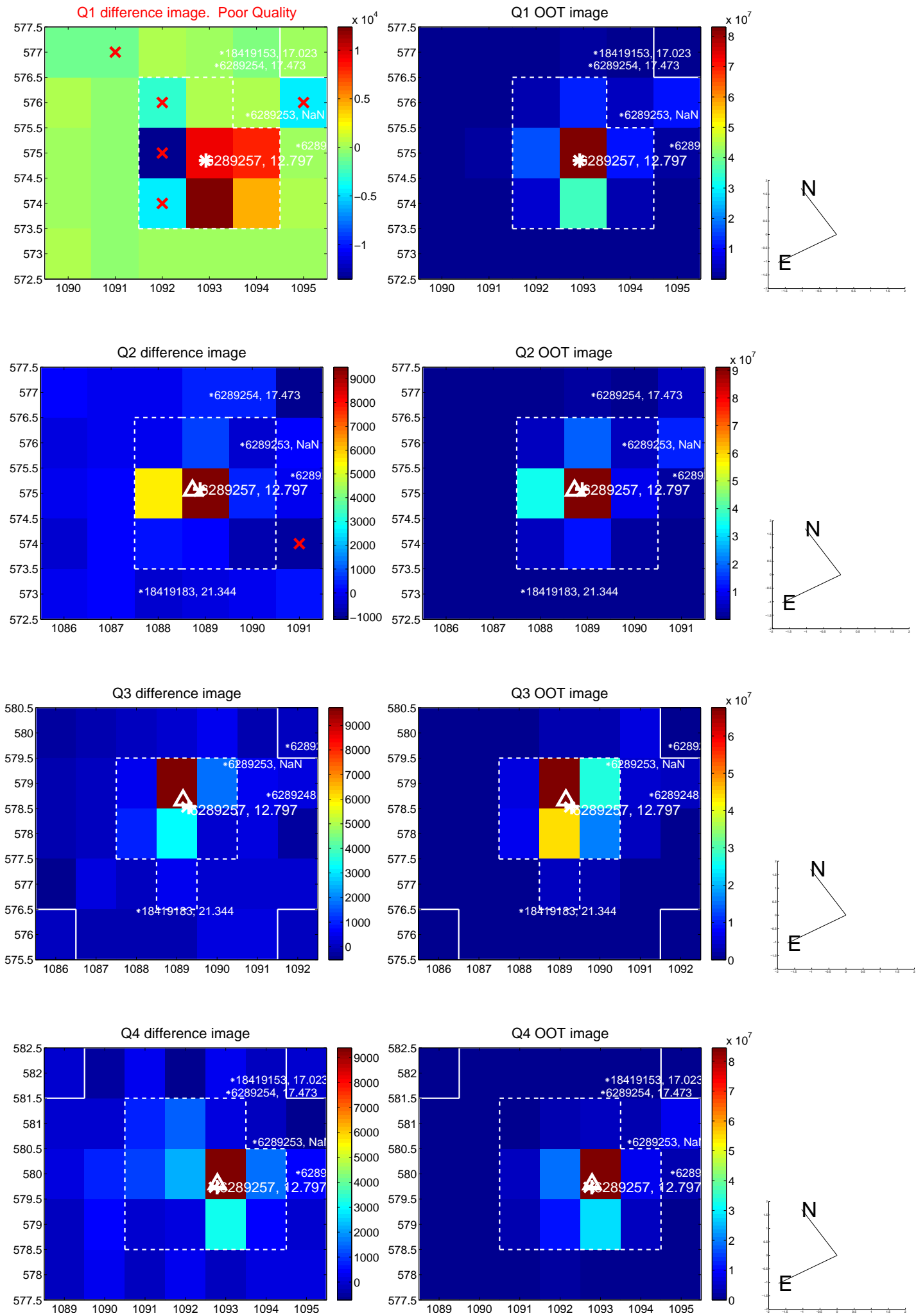
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.456 ± 0.159	2.86	0.065 ± 0.164	0.451 ± 0.158
PRF-fit source offset from KIC position	0.420 ± 0.161	2.60	-0.079 ± 0.150	0.413 ± 0.161
photometric centroid source offset	0.55 ± 0.34	1.61	0.54 ± 0.34	0.07 ± 0.27

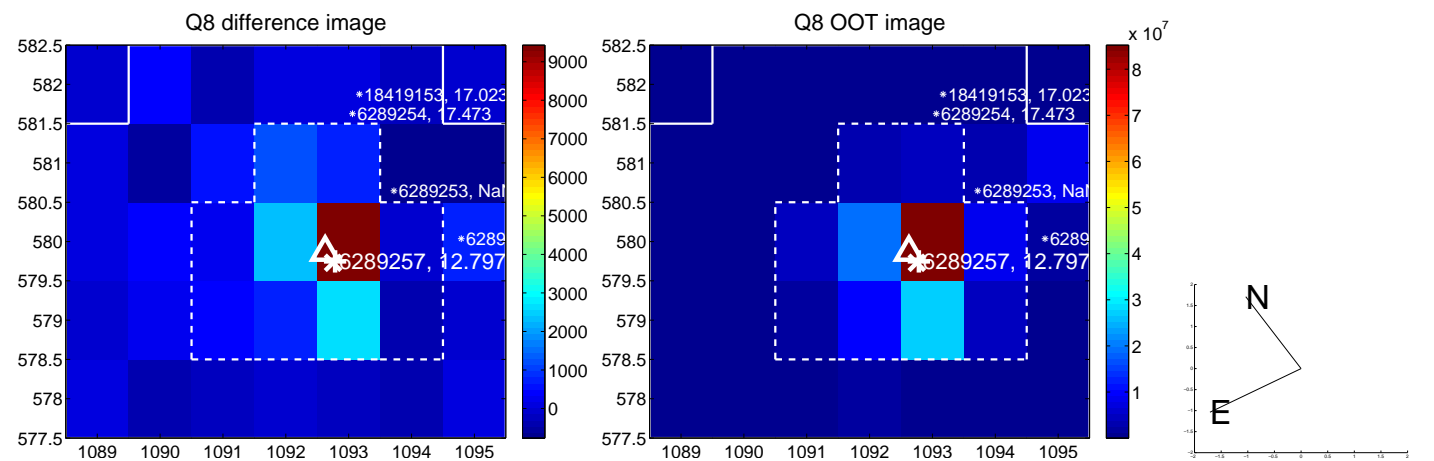
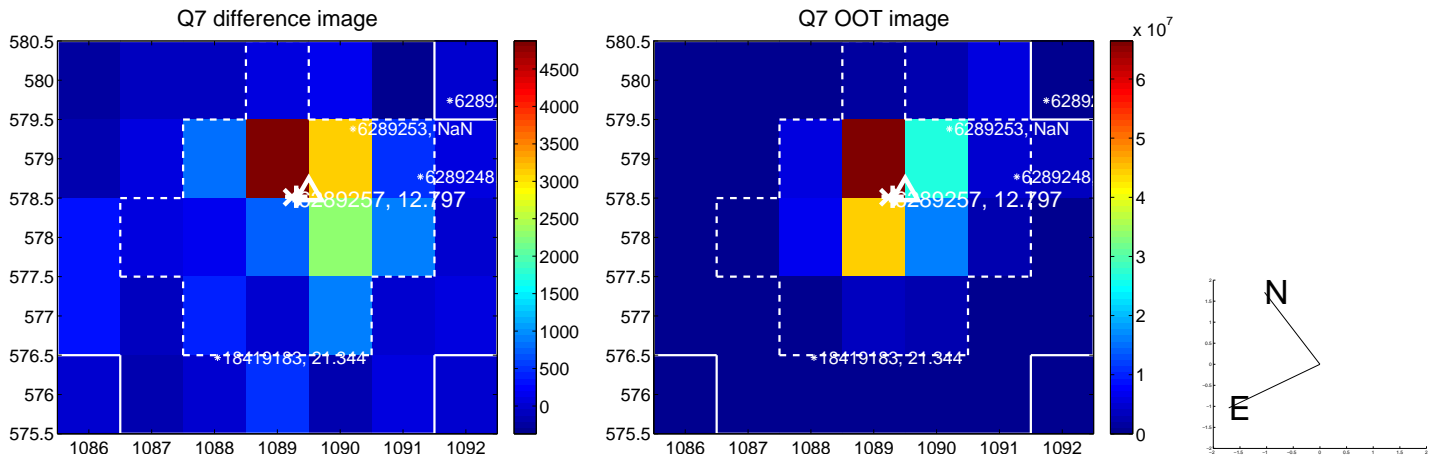
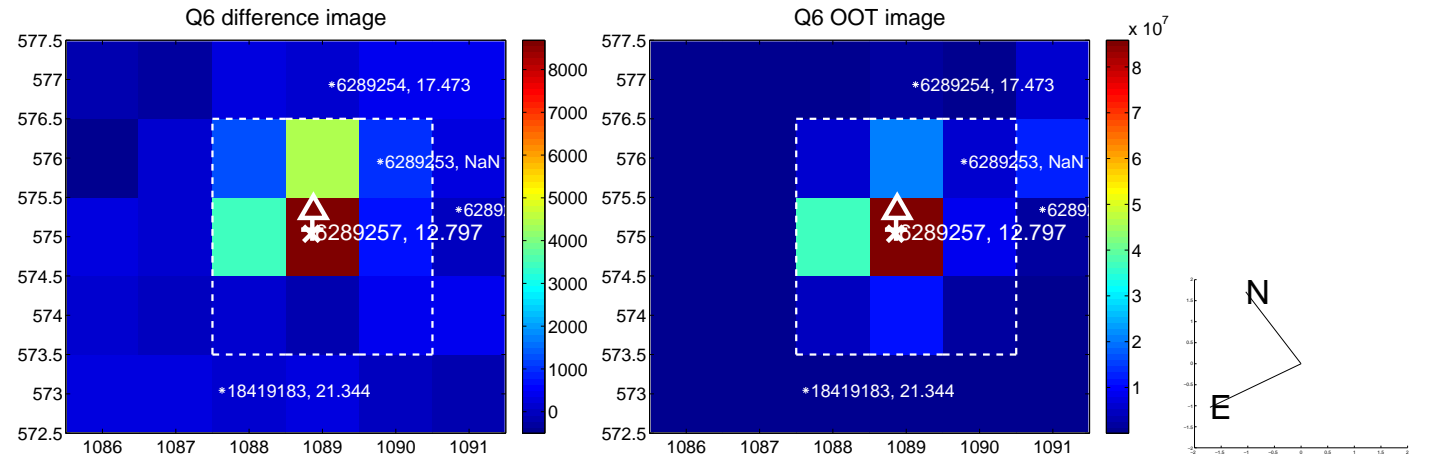
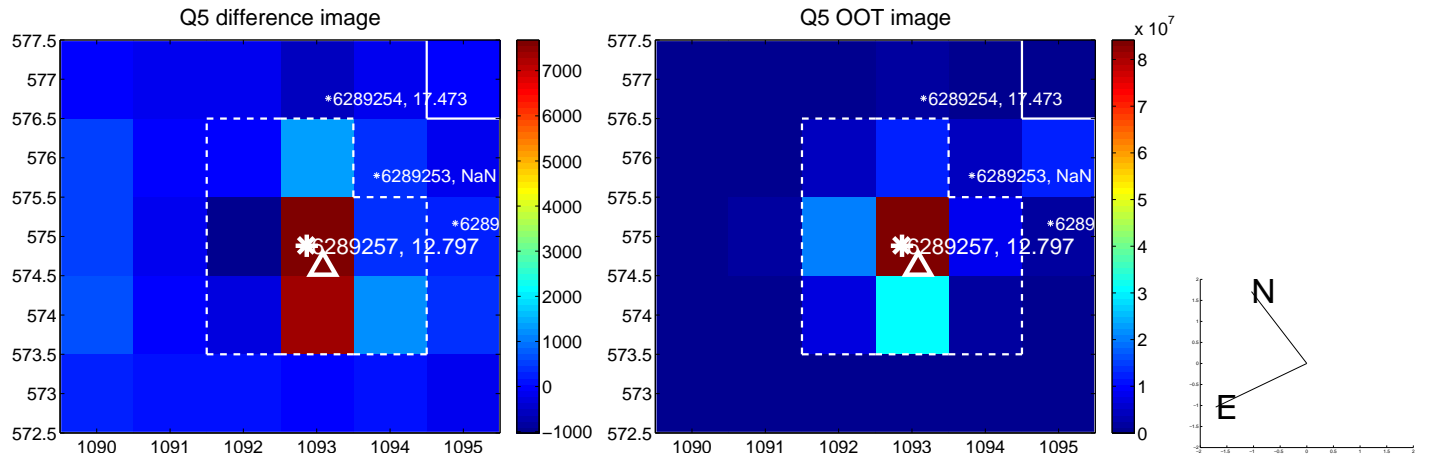


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

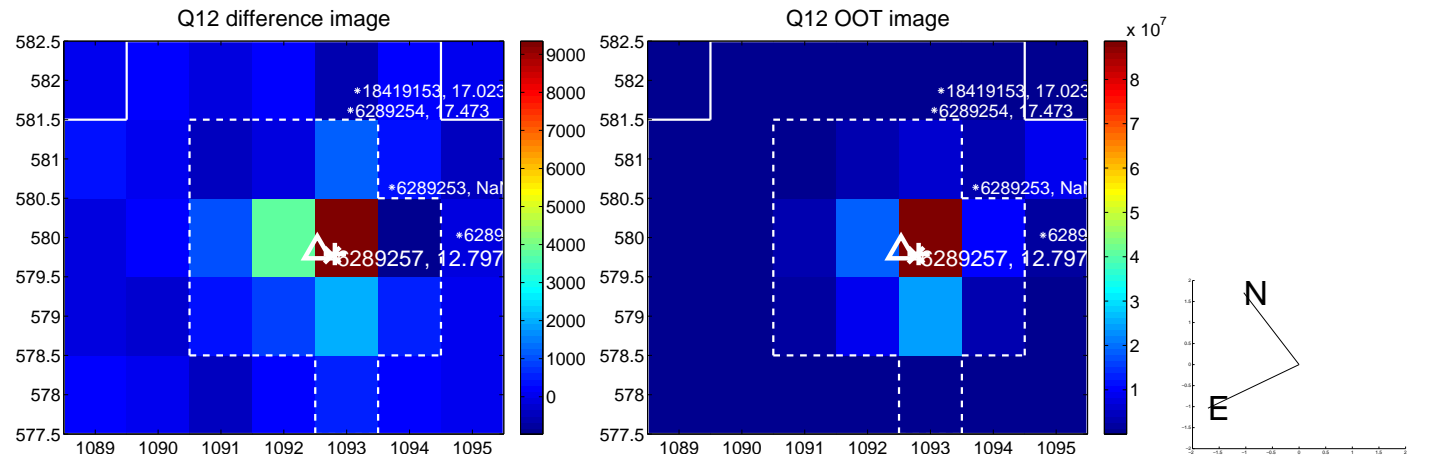
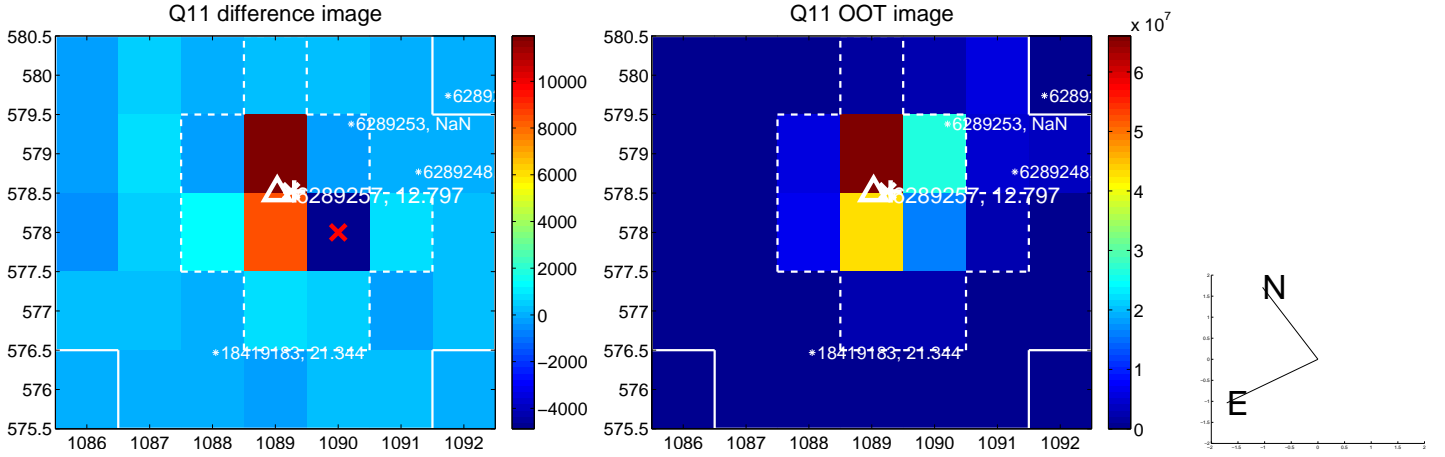
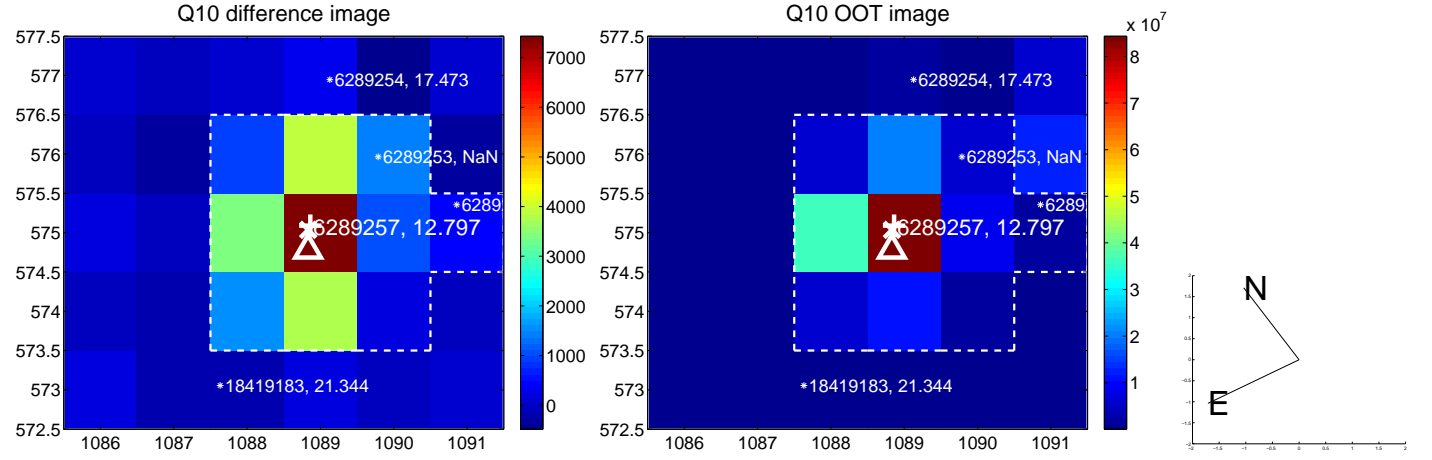
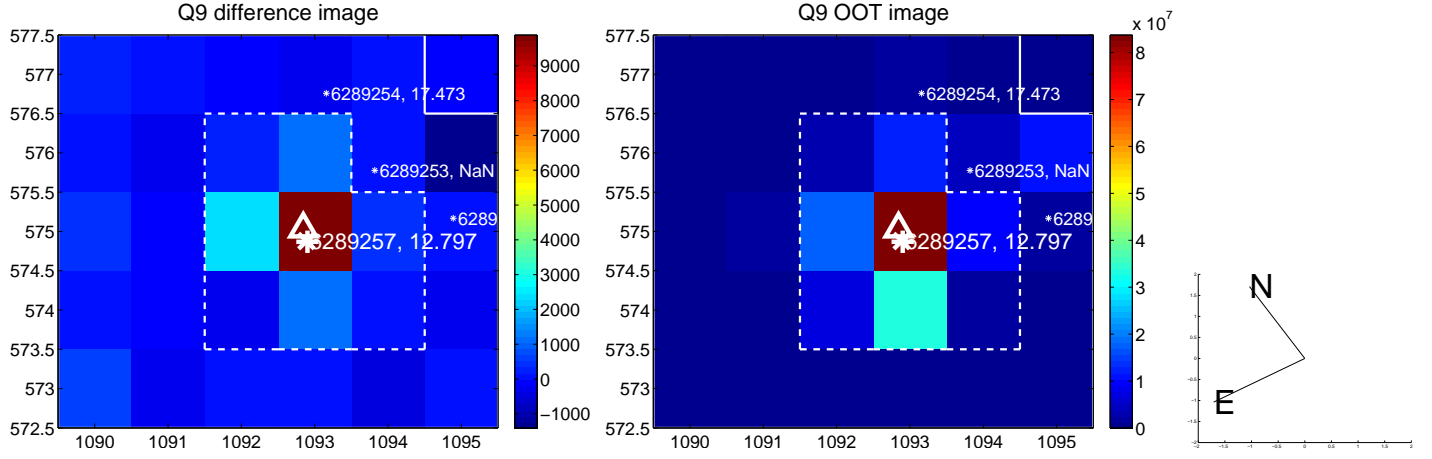
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



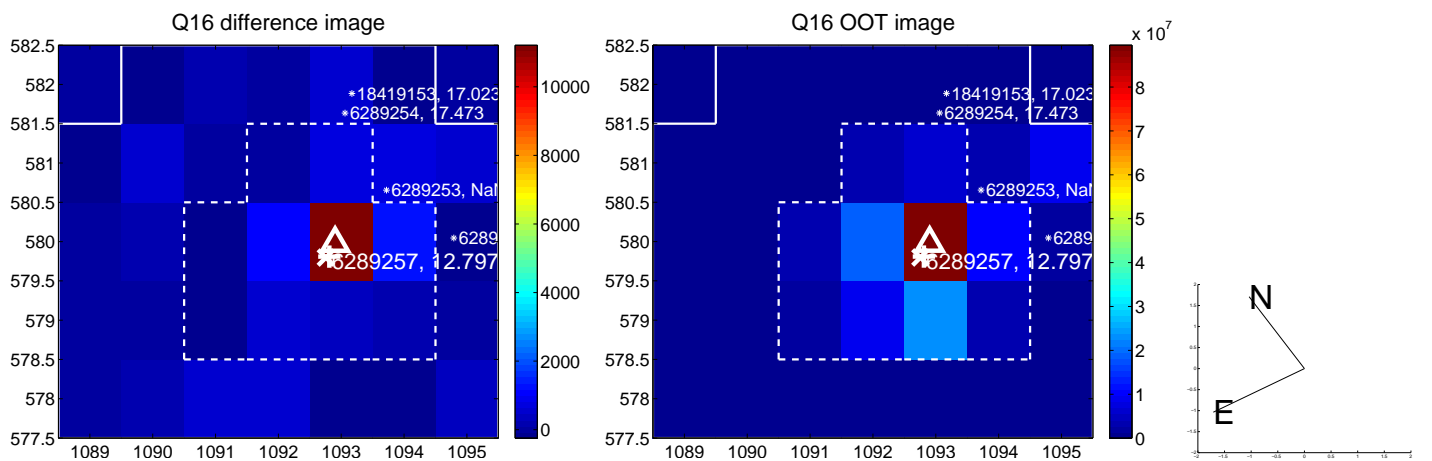
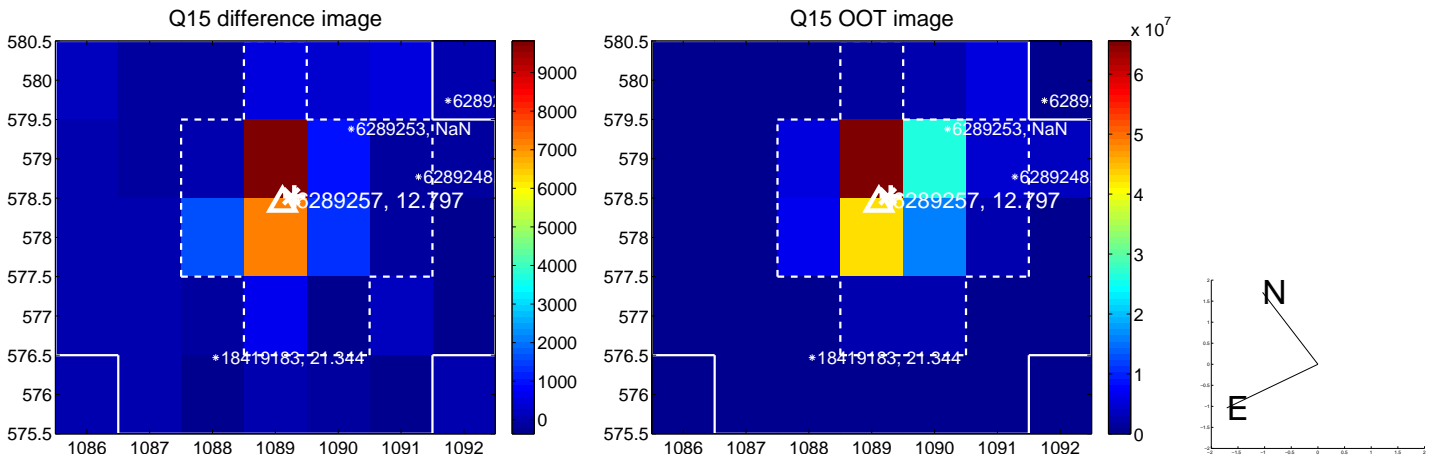
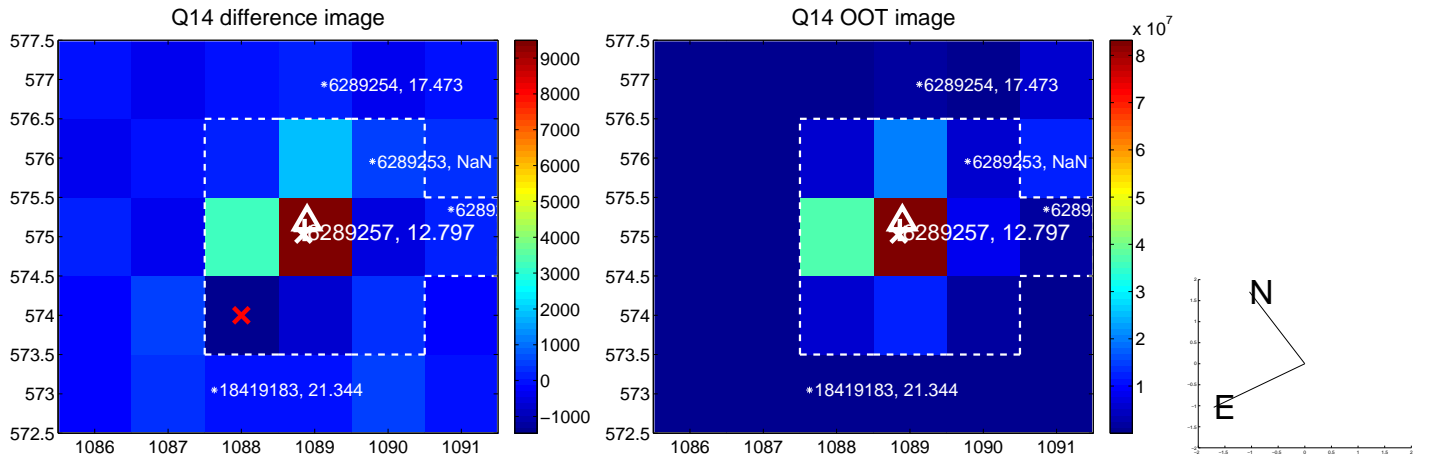
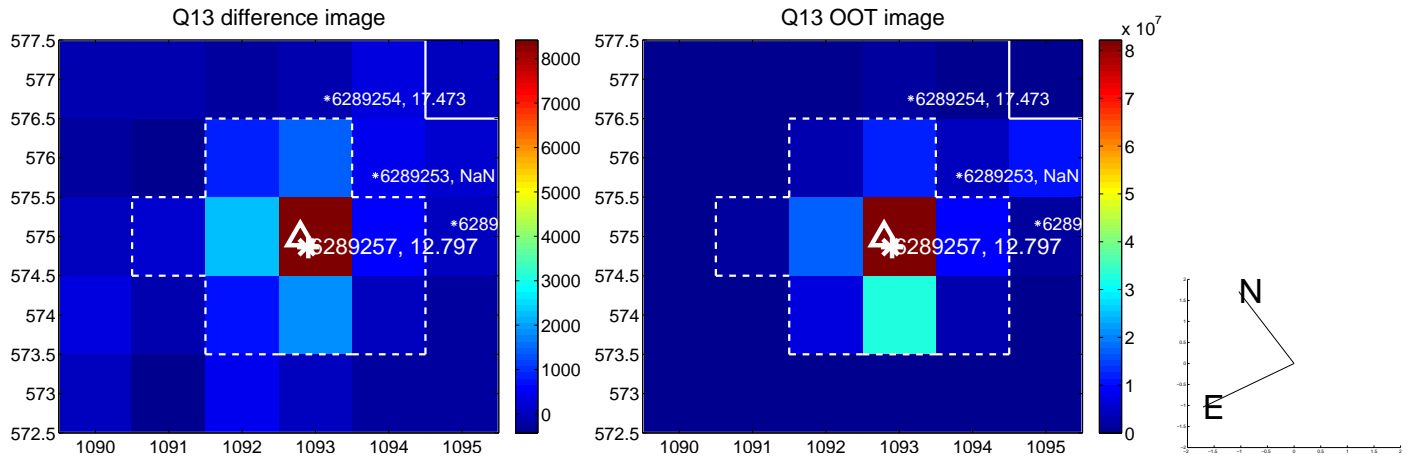
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



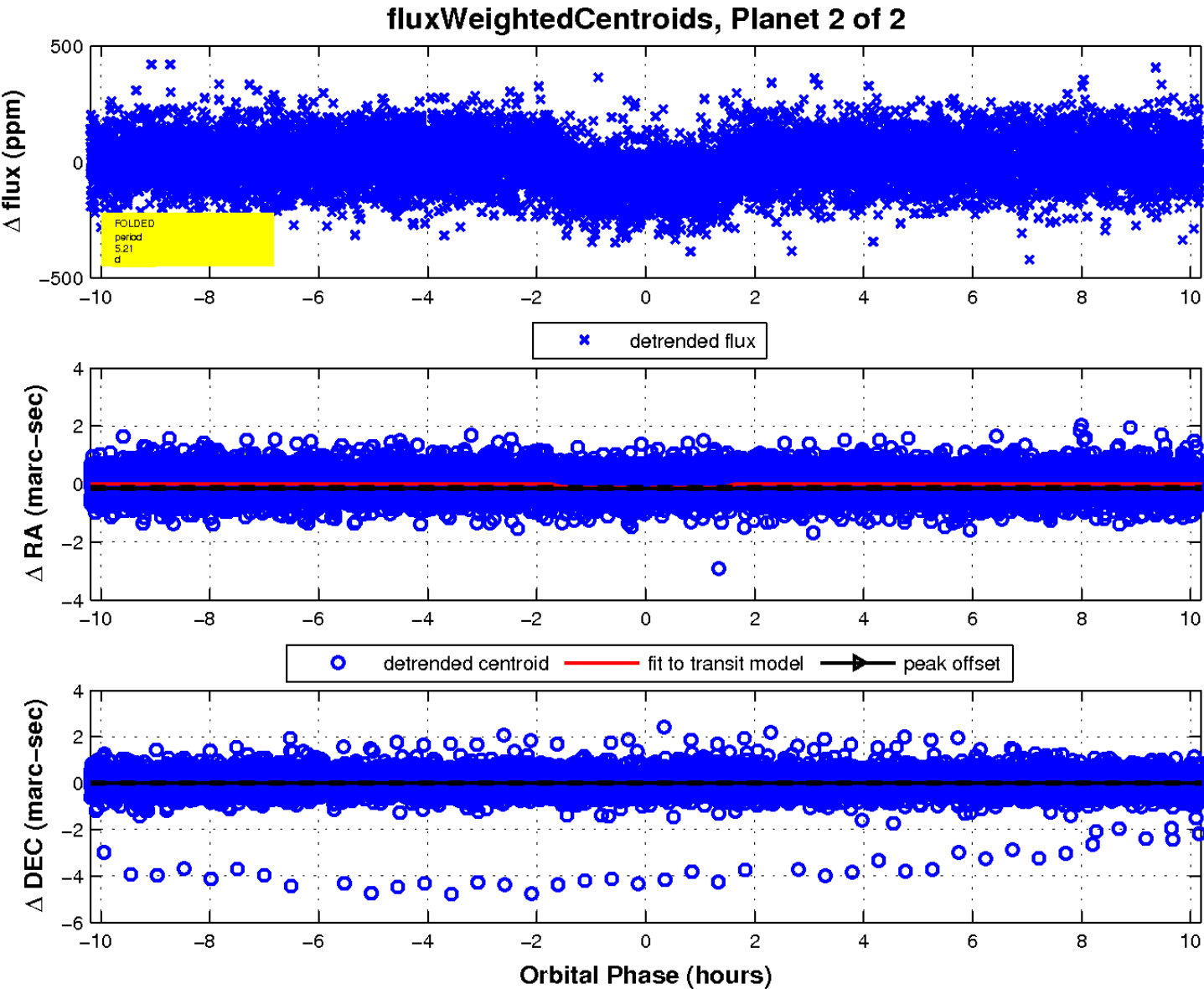
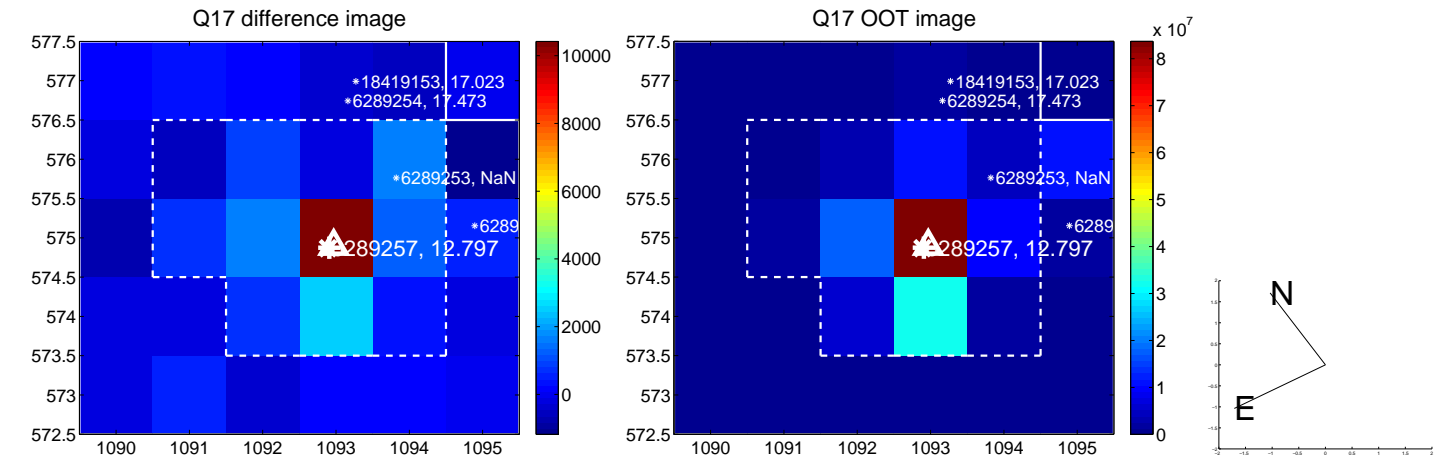
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

